

Honors Courses in North Carolina: Career Technical Education

CTE Courses Eligible for Honors Credit

Selected Career-Technical Education completer courses are eligible to be developed as honors courses at the local level:

- 6422 Computer Programming II-VB.NET
- 6427 Computer Programming II-Other Languages
- 7992 Computer Engineering Technology II
- 6312 Computerized Accounting II
- 6451 Database Programming I-Oracle Academy
- 6452 Database Programming II-Oracle Academy
- 7962 Drafting-Architectural II
- 7963 Drafting-Architectural III
- 7972 Drafting-Engineering II
- 7973 Drafting-Engineering III
- 7112 Early Childhood Education II
- 6415 e-Commerce I
- 6416 e-Commerce II
- 7632 Electronics II
- 6842 Horticulture II
- 7222 Medical Sciences II
- 6345 Network Administration II-LINUX
- 6346 Network Administration II-NOVELL
- 6347 Network Administration II-Microsoft
- 7981 Network Engineering Technology II-CISCO
- 7982 Network Engineering Technology III-CISCO
- 7983 Network Engineering Technology II-NORTEL
- 7984 Network Engineering Technology III-NORTEL
- 8012 Principles of Technology II
- 7902 Scientific & Technical Visualization II (T&I)
- 8007 Scientific & Technical Visualization II (TE)
- 6626 Strategic Marketing

Designation of CTE Honors Courses

Local administrators are to ensure that all CTE honors courses have sufficient rigor, breadth, and depth to be awarded high school honors credit in accordance with North Carolina State Board Policy Number HSP-M-001. The North Carolina Honors Course Standards will be used as a basis for designing and implementing courses that will be given honors designation. Honors courses that will receive weighted credit (5 quality points) should be periodically reviewed by teachers and administrators. It should not be assumed that once an honors course has been developed by a teacher and approved by administration that it will remain the same throughout ensuing years and always be taught by the same teacher.

Honors Courses in North Carolina: CTE (*continued*)

Designation of CTE Honors Courses (*continued*)

Each honors course should be reviewed and revised to ensure that the course is aligned with the current *North Carolina Standard Course of Study* (NCDPI, 2002) and *North Carolina Honors Course Standards* (NCDPI, 2004). This process must also ensure that courses are consistent with the following:

- Emerging instructional best practices
- How students best learn
- The latest content

Since honors courses receive weighted credit, teachers and administrators should periodically reexamine these courses to keep them current and reaffirm their rigor. Likewise, any time an honors course is assigned to be taught by someone other than the teacher who originated the course, it should be reviewed and, if necessary, modified, by the newly assigned teacher before it is assigned an honors designation.

Definition of CTE Honors Courses

Career-Technical Education honors courses are designed to be developed and conducted to demand more challenging involvement than standard Career-Technical Education courses. They must be demonstrably more challenging than standard courses and provide multiple opportunities for students to take greater responsibility for their learning. CTE honors courses should be distinguished by a difference in the quality of the work expected rather than merely by the quantity of the work required.

Purposes of CTE Honors Courses

Career-Technical Education honors courses should be designed for students who have demonstrated an advanced level of interest and achievement in a given subject area. The rationale for honors courses is not to provide a means to attract students to enroll in classes for additional credit, but rather to offer challenging, higher level courses for students who aspire to an advanced level of learning. Furthermore, students and parents should be informed that CTE honors courses are more demanding and have requirements beyond those of standard CTE courses.

The aims of CTE honors courses are to promote:

- Opportunities for advanced work.
 - Rigorous study of CTE content areas.
 - Practical application of knowledge and skills.
 - Transfer of knowledge and skills to work-based situations.
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Honors Courses in North Carolina: CTE (*continued*)

Purposes of CTE Honors Courses (continued)

Honors courses should be developed as an integral component of a differentiated program of study that provides an array of opportunities for all students based on their aptitudes, affinities, and interests. A well-developed Career-Technical program will have both standard and honors courses.

Characteristics of CTE Honors Courses

CTE honors courses will follow the same course of study, including content outline, blueprint, and curriculum guide, as the corresponding CTE course in the *NC Standard Course of Study* (NCDPI 2002); however, they should address the content with greater complexity, novelty, acceleration, and /or pacing. CTE honors courses should reflect a differentiation of curriculum, both in breadth and depth of study. CTE honors courses should exemplify the following characteristics:

- Require a higher level of cognition and quality of work than the standard course
- Enable students to become actively involved in classroom and work-based learning experiences
- Involve students in exploratory, experimental, and open-ended learning experiences

CTE honors courses should provide opportunities for the following:

- Problem-seeking and problem-solving
- Participation in scholarly and creative processes
- Use of imagination
- Critical analysis and application
- Personalized learning experiences
- Learning to express/defend ideas
- Learning to accept constructive criticism
- Becoming a reflective thinker
- Becoming an initiator of learning

Teachers of CTE Honors Courses

Teachers of CTE honors courses should possess the skills, knowledge, and dispositions to challenge and inspire thought processes of honors level students. In addition, these teachers should be able to implement diverse kinds of best teaching practices for high school learners. The capability of developing, implementing, and evaluating defensibly differentiated curriculum is a key characteristic of teachers who work with honors students. They should know and use a variety of teaching techniques. They should be proficient in the use of both indirect and direct modes of instruction. They should be confident in their teaching roles as facilitator, model, and coach. Furthermore, they should be aware of current curriculum innovations and research in the content area in order to be able to develop and implement CTE honors courses that are both challenging and rigorous.

Honors Courses in North Carolina: CTE (*continued*)

Facilities for CTE Honors Courses	Facilities and equipment for CTE honors courses should meet or exceed that specified for a standard course. Before CTE honors courses are developed, approved, and implemented, consideration should be given to the ability of a school or system to provide any special equipment, technology or materials that a specific honors course may demand.
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Teaching Preparation Portfolio for CTE Honors Courses	Teachers interested in offering honors CTE courses must develop and submit for approval to local administrators a portfolio of curriculum materials for each honors course. This CTE Honors Teaching Preparation Portfolio must clearly and concisely include, but is not limited to, the following elements:
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- Course description from *Standard Course of Study**
- Competency goals and objectives from course blueprint*
- Concepts from course outline*
- Generalizations/essential questions
- Issues particular to the course
- Expectations of performance
- Assignments
- Timetables and deadlines
- Pacing guide
- Assessments, including rubrics
- A system for grading
- Instructional materials, equipment, and technologies required

A electronic template for the [Teaching Preparation Portfolio](#) follows. An explanation of each of the elements in the Teaching Preparation Portfolio follows. Examples of selected elements appear in Appendix A. It is suggested that teachers present several of the portfolio elements in the form of a course syllabus, which may also be given to students upon enrollment. Note that honors students will take the same postassessment as students in regular classes.

* *Starred items are already provided for CTE courses. For CTE honors courses, teachers should follow the course description found in the Standard Course of Study, competency goals and objectives from in the course blueprint and concepts from in the course outline*

Honors Courses in North Carolina: CTE *(continued)*

Course Description	<p>CTE Course Descriptions are found in the Standard Course of Study (NCDPI, 2002). The Standard Course of Study has been approved by the State Board of Education. Honors courses are to follow the Standard Course of Study, but extend the course to a higher, more challenging level.</p> <p>The standard course description should be followed by a paragraph that explains the added expectations of students in an honors course, including local requirements. An example of an honors course description appears in Appendix A.</p>
Competency Goals and Objectives	<p>Competency goals and objectives appear in course blueprints that are available for most CTE courses. Honors courses are to include all goals and objectives that are identified as CORE in the course blueprint. Blueprints for honors courses may be modified to add goals and objectives or include goals and objectives identified on the course blueprint as supplemental.</p> <p>The course blueprint with appropriate enhancements should be included in the Teaching Preparation Portfolio.</p>
Concepts	<p>Major concepts for each course are included in the course outline, which can be found in the course curriculum guide or other course documents. Honors courses are to include all major concepts identified in the outline. Outlines for honors courses may be modified to include additional concepts.</p> <p>The outline with appropriate enhancements should be included in the Teaching Preparation Portfolio.</p>
Generalizations	<p>Generalizations are general statements or ideas concerning any area of study. Generalizations are statements for which examples can be provided. Generalizations identify characteristics about abstractions (Marzano, 2001).</p> <p>Students in honors courses are challenged to reason inductively as they make observations and gather evidence in order to develop generalizations from information they have learned. They also use generalizations deductively as they make specific inferences from general principles. This process, known as generalizing, is a sophisticated skill as it relates to organizing ideas (Marzano, 2001). Generalizing can also involve constructing and defending conclusions about a set of skills or inferring new conclusions based on the understanding of two or more persons.</p>

Honors Courses in North Carolina: CTE *(continued)*

Generalizations (continued)

The Teaching Preparation Portfolio should include a list of generalizations with specific indications of how these generalizations are to be used in the honors class. Examples of generalizations are found in Appendix A.

Essential Questions

Essential questions are interrogative statements designed to focus attention on main ideas. They are used in honors courses to prompt thinking and spark discussion of key elements within a larger context. Essential questions are helpful in working through the steps in problem-solving, planning, and decision-making processes. The answers to essential questions are often in the form of generalizations.

Essential questions reflect the most historically important issues, problems and debates in a field of study. For example, “Is history inevitably biased?” or “Nature or nurture?” are essential questions. By examining such questions, students are engaged in higher order thinking. Essential questions are open-ended with no single, correct answer. They are meant to stimulate inquiry, debate and further questions, and can be reexamined over time. They are designed to be thought-provoking to students, engaging them in sustained, focused inquiries, culminating in meaningful performances (McTighe & Wiggins, 2004).

Instructors of CTE honors courses are expected not only to pose essential questions to the students, but to guide students in generating their own essential questions as they study and master the curriculum. The Teaching Preparation Portfolio should include a list of essential questions with specific indications of how these essential questions are to be used in the honors class.

Issues Particular to the Course

Examples of essential questions appear in Appendix A.

Because of the diverse nature of course content, many courses have issues or features that are unique to the course. Teachers must identify these issues and discuss with administrators and other appropriate individuals prior to implementation of the course.

Examples of issues particular to a specific course appear in Appendix A.

Expectations of Performance

Students in CTE honors courses may have a different set of performance expectations than students in standard CTE courses. The Teaching Preparation Portfolio provides a place where teachers can compare the expectations of students in standard courses to those in honors courses.

Examples of expectations of performance appear in Appendix A.

Honors Courses in North Carolina: CTE *(continued)*

Assignments	<p>Students in CTE Honors courses will have assignments that reflect the inherent rigor of honors level courses. These are likely to be long-term project- or problem-based assignments and should offer students elements of choice so that their career aims and interests may be addressed. In many CTE course curriculum guides, assignment options that reflect honors-level work are already in place.</p> <p>Examples of assignments appropriate for an honors course appear in Appendix A.</p>
Timetables and Deadlines	<p>Timetables for CTE Honors course projects and activities and deadlines for assignments are helpful in course planning and communication with students. These should be provided to students at the beginning of the course.</p>
Pacing Guide	<p>A pacing guide is a calendar showing the pace of instruction, with time allocated for teaching and applying each essential concept. The pacing guide is a useful tool for teachers to ensure that instructional time is carefully used and that students have the appropriate amount of time for work-based learning and project-based experiences. Pacing guides should be planned in advance and revised as needed to accurately depict time allocations for units and objectives being taught.</p>
Assessments	<p>Good instruction involves assessment by multiple and varied means. The classroom assessment bank provided for most CTE courses provides a beginning point. A wide variety of evaluation methods and forms of assessments should be used in CTE courses to measure what students know and what they know how to do. This is particularly important in honors courses. These assessments should include both cognitive and performance-based tasks. Where appropriate, rubrics should be developed and provided to students and evaluators.</p> <p>The following types of assessments should be included:</p> <ul style="list-style-type: none">• Selected response – multiple choice items, checklists, informed decision-making, matching, surveys, questionnaires• Student written response – essays, research papers, scenarios, journals, newsletters, brochures, open-ended statements• Performance tasks – lab practical tests, projects, problem-solving, original designs, portfolios, lesson plans, self-evaluations• Conversation assessments – interviews, annotated discussions, panel discussions, debates, focus groups• Observation assessments – case studies, anecdotal records, observation reports

Honors Courses in North Carolina: CTE *(continued)*

Assessments (continued)

An example of a performance task and scoring rubric are included in Appendix A.

A System for Grading

Each CTE honors course should have a clear, concise system for grading so that students will be accountable for course requirements and know in advance the relative weight of each component of their grades. The system for grading should be explained in the Teaching Preparation Portfolio.

The grading system, along with timetables and deadlines, assignments, and expectations for students, should be explained clearly in a course syllabus that is made available to students at the beginning of the course.

An example of a grading system is included in Appendix A.

Instructional Materials, Equipment, and Technologies

In many CTE honors courses, being able to complete honors-level learning experiences and assignments may be dependent upon having the necessary resources with which to work. In such instances, having a list of essential instructional materials, equipment, and technologies helps administrators and teachers plan course offerings and make program decisions.

Honors Courses in North Carolina: Career Technical Education

REFERENCES

- Marzano, R. J. (2001). *Designing a new taxonomy of educational objectives*. Thousand Oaks, CA: Corwin Press, Inc.
- McTighe, J., and Wiggins, G. (2004). *Understanding by Design*. Alexandria, VA: Association for Supervision and Curriculum Development.
- NCDPI (2002). *The North Carolina Standard Course of Study Guide: Career-Technical Education*. Raleigh, NC: North Carolina Department of Public Instruction. [Available online at http://www.ncpublicschools.org/workforce_development/publications/course_of_study/standard_course_of_study_2004-05.pdf].
- NCDPI (2004). Standards for Honors Courses. NC State Board of Education Policy HSP-M-001; HSP-L-004 approved November 2004. North Carolina Department of Public Instruction.

Honors courses in North Carolina: CTE (*continued*)

Appendix A – Examples

The following examples are provided to illustrate how the elements of a Teaching Preparation Portfolio might be developed. Teachers are not expected to utilize these examples verbatim, but to create their own based upon their teaching situation.

Course Description

Horticulture II

This course covers instruction that expands the scientific knowledge and skills to include more advanced scientific computations and communication skills needed in the horticulture industry. Topics include greenhouse plant production and management, bedding plant production, watering systems, light effects, basic landscape design, installation and maintenance, lawn and turfgrass management, career planning, and leadership/personal development. Skills in biology, chemistry, and algebra are reinforced in this class. Work-based learning strategies appropriate for this course are agriscience projects, cooperative education, apprenticeships, and supervised agricultural experience. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.

This honors course extends the Standard Course of Study to a higher, more challenging level. Students can expect to complete extensive written assignments including a research paper and to make regular presentations of their work to the other students in their class. According to school system policy, to enroll in Horticulture II-Honors, students must successfully complete Horticulture I..

Generalizations

Computer Engineering II

- *Operating systems have essential characteristics that must be understood by a computer repair technician if he or she is to be successful in installation, upgrading, troubleshooting and repair.*
- *Through the use of correct procedures, network protocols, and a network operating system, computers may be configured to create a LAN.*

Network Engineering Technology II

- *LAN construction requires mastery of network topologies, the OSI Model, network hardware, router configuration and protocols.*
- *Access control statements provide one type of LAN Security*
- *Binary mathematics is the backbone of LAN routing configuration and control.*

Network Engineering Technology III

- *Broadband or baseband technologies will determine the flow of data through networks.*
 - *Advanced binary mathematics determine Advanced IP Addressing within networks.*
 - *LAN design is a complex process with specific characteristics best suited for optimal network usage.*
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Honors courses in North Carolina: CTE (continued)

Appendix A – Examples

Essential Questions

e-Commerce I

- *How do the basic business and marketing principles apply to e-businesses?*
- *What is the significance of the target market to the success of an e-commerce business?*
- *How do planning and design, including storyboarding, impact the success of an e-business website?*
- *Why should a website developer learn HTML coding?*

Issues Particular to the Course

Medical Sciences II

- *Students/teachers must have liability insurance for negligent acts against a patient/client. Teachers need the insurance to cover both negligence and malpractice.*
- *Students must maintain patient/client confidentiality laws and adhere to HIPPA guidelines at all times.*
- *Students must adhere to clinical agency requirements relating to appropriate vaccinations such as TB skin test, Hepatitis B, Rubella.*
- *Students/teachers must comply with all JCAHO, OSHA, and other designated industry requirements while in the health care setting.*
- *Students must adhere to CDC's "standard precautions" in all clinical settings*
- *Students must adhere to the clinical uniform policy of the individual health care agency, demonstrating a professional appearance and professional behavior at all times. Students/schools may be required to purchase uniforms.*
- *Students must honor the Patients' Bill of Rights at all times.*

Expectations of Students

Computerized Accounting II

In addition to mastering the course objectives listed in the Computerized Accounting II course blueprint, the honors Computerized Accounting II student is expected to analyze financial data and assist in making business decisions based upon the financial data.

Expectations for Standard Course	Expectations for Honors Course
<i>Prepare end-of-fiscal period financial statements from a worksheet.</i>	<i>Prepare end-of-fiscal period financial statements from a worksheet and analyze the financial statements to predict the fiscal health of the organization.</i>
<i>Establish and maintain a petty cash fund and record related journal entries.</i>	<i>Establish and maintain a petty cash fund and record related journal entries. Examine the uses for petty cash and determine the need to increase or decrease the petty cash fund.</i>

Honors courses in North Carolina: CTE (continued)

Appendix A – Examples

Expectations of Students (continued)

Expectations for Standard Course	Expectations for Honors Course
<i>Compute and journalize depreciation (using straight-line, declining balance, sum-of-the-years, units of production) and gains and losses on disposal of plant assets.</i>	<i>Compute and journalize depreciation (using straight-line, declining balance, sum-of-the-years, units of production) and gains and losses on disposal of plant assets. Compare the depreciation expense using the different methods and determine the most advantageous method for the business to use.</i>
<i>Compute and journalize transactions for uncollectible accounts.</i>	<i>Compute and journalize transactions for uncollectible accounts. Analyze the uncollectible accounts for the business.</i>
<i>Compute and journalize transactions relating to notes receivable and notes payable.</i>	<i>Compute and journalize transactions relating to notes receivable and notes payable. Explain circumstances when a business would obtain a note payable.</i>
<i>Compute the cost of merchandise inventory using the FIFO and LIFO methods.</i>	<i>Compute the cost of merchandise inventory using the FIFO and LIFO methods. Explain when it is more advantageous for a business to use the LIFO method and when it is more advantageous to use the FIFO method.</i>

Assignments

Strategic Marketing

- *Unit F, Comp 6, Obj 6.03*
Have students compare and contrast sequential product development and parallel (sequential) product development. After comparing these two methods of speeding the development process, students should decide which method would be most cost effective and justify their decisions.
- *Unit F, Comp 6, Obj 6.05*
Have students write an article for the local newspaper discussing current trends in product packaging and labeling. Allow students share their work with the class. Focus on the effect legislation has on regulating product labeling.
- *Unit project on "Conducting Research" in Unit D (4.00)*
As a summary: Student groups are to complete a research study in the field of marketing. The project must be planned, conducted, and reported by the group. When complete, the use of the study should be helpful to measurably improve the marketing activities of your school, and individual company, a group of companies, or the business community in which you live. (Length of the report may vary, but 30 pages total is reasonable.)

Appendix A – Examples

Performance Task and Rubric

Drafting III-Engineering

UNIT VI: Geometric Dimensioning and Tolerancing

Competency: D506.00

Demonstrate basic geometric dimensioning and tolerancing techniques

Objective: D506.02

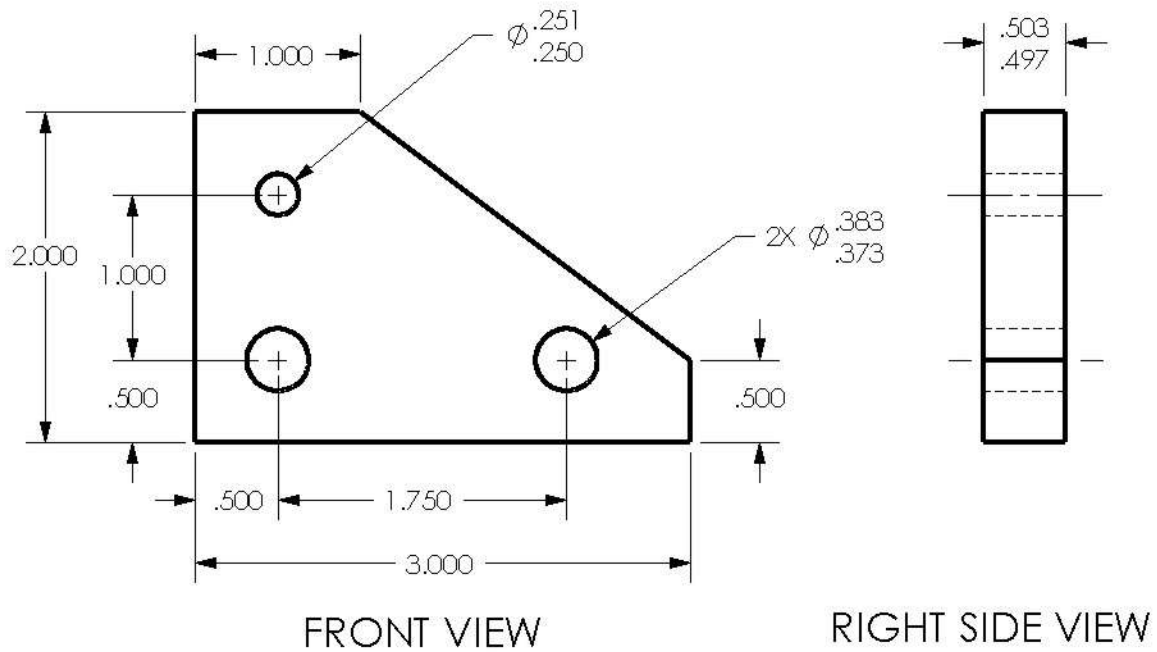
Construct a drawing with geometric dimensions and tolerances

Requirements: Each student is required to apply geometric dimensions to a simple drawing. Your instructor will either provide you with the drawing below or ask you to reproduce it using the appropriate CAD software.

1. The drawing should be completed at a scale of 1 : 1.
2. Use accepted drafting standards for all line weights.
3. Add your name, problem number (**D006.02.001**), scale, and date in the title block.
4. Time Limit = 90 minutes.
5. Your work should reflect an understanding of the basic concepts related to geometric dimensioning and tolerancing. It will be evaluated on your ability to correctly draw and apply geometric dimensions, feature control frames, datum feature symbols, and basic dimensions.
6. Apply the following information to the ANGLE PLATE:
 - a. Make the right-hand face in the side view flat within .005. Identify this surface as datum feature A.
 - b. Make the bottom surface in the front view perpendicular within .005 to datum A. Identify this bottom surface as datum feature B.
 - c. Make the left-hand surface in the front view perpendicular within .005 to datum A (primary) and B (secondary). Identify this left-hand surface as datum C.
 - d. Make all dimensions basic except the size tolerances (the limit dimensions).
 - e. Position the two larger holes within a diameter tolerance zone of .010 at MMC relative to datum A (primary), B (secondary), and C (tertiary).
 - f. Position the .250 diameter hole within a diameter tolerance zone of .008 at MMC relative to datum A (primary), B (secondary), and C (tertiary).
 - g. In the front view, identify the top left-hand corner as point X. Identify the bottom right-hand corner as point Y. On the surfaces between points X and Y (toward the top right of the view), apply a profile of a surface tolerance of .020 total referenced to datum A (primary), B (secondary), and C (tertiary). Under the profile feature control frame state that the tolerance applies between points X and Y.

Appendix A – Examples

Performance Task and Rubric (continued)



Honors courses in North Carolina: CTE (continued)

Appendix A – Examples

Performance Task and Rubric (continued)

Rubric for Geometric Dimensioning and Tolerancing – Construct a drawing with geometric dimensions and tolerances – D506.02

Correct format and placement of feature control frames

<i>Feature control frames do not have the correct format. Feature control frames are not placed in the correct location.</i>	<i>Most feature control frames have the correct format. Most feature control frames are placed in the correct location.</i>	<i>All feature control frames have the correct format. All feature control frames are placed in the correct location.</i>	<i>Total Points</i>
<i>0-35 points</i>	<i>36-45 points</i>	<i>46-50 points</i>	

Correct format and placement of datum feature symbols

<i>Datum feature symbols do not have the correct format. Datum feature symbols are not placed in the correct location.</i>	<i>Most datum feature symbols have the correct format. Most datum feature symbols are placed in the correct location.</i>	<i>All datum feature symbols have the correct format. All datum feature symbols are placed in the correct location.</i>	<i>Total Points</i>
<i>0-21 points</i>	<i>22-27 points</i>	<i>28-30 points</i>	

Correct identification of basic dimensions

<i>Basic dimensions are not correctly identified.</i>	<i>Most basic dimensions are identified correctly by placing a box around them.</i>	<i>All basic dimensions are identified correctly by placing a box around them.</i>	<i>Total Points</i>
<i>0-6 points</i>	<i>7-8 points</i>	<i>9-10 points</i>	

Correct application for identifying points X and Y

<i>Neither point is identified correctly.</i>	<i>Only one point is identified correctly.</i>	<i>Points X & Y are identified correctly.</i>	<i>Total Points</i>
<i>0 points</i>	<i>3 points</i>	<i>5 points</i>	

Titleblock information

<i>Major errors in titleblock information.</i>	<i>Minor error in titleblock information.</i>	<i>All titleblock information is shown and spelled correctly.</i>	<i>Total Points</i>
<i>0 points</i>	<i>3 points</i>	<i>5 points</i>	

Honors courses in North Carolina: CTE (*continued*)

Appendix A – Examples

System of Grading

Early Childhood Education II

<i>Classroom Assessments – 50%</i>		<i>Work-Based Learning Assessments – 50%</i>	
<i>Daily quizzes</i>	<i>5%</i>	<i>Performance Tests</i>	<i>20%</i>
<i>Projects</i>	<i>10%</i>	<i>Observations/Case Studies</i>	<i>10%</i>
<i>Presentation</i>	<i>5%</i>	<i>Electronic Portfolio</i>	<i>10%</i>
<i>Journals</i>	<i>10%</i>	<i>Lesson Presentations</i>	<i>10%</i>
<i>Unit tests</i>	<i>10%</i>		
<i>Final Written Exam</i>	<i>10%</i>		