



## Nebraska Career Pathways Project

### SKILLED AND TECHNICAL SCIENCES

#### **Construction Cluster Technical Knowledge and Skills High School/College Construction Student Checklist**

				STUDENT:	DATE:
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>N = Not Exposed to Performance Element, 1 = Progressing with Performance Element, 2 = Mastery of Performance Element</b>	
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Read Drawings and Specifications (CO.DS)</b>	
			<b>CO.DS.1</b>	<i>Interpret and determine dimensions from multiple view drawings and build the project from plans, elevations, sections and details</i>	
			<b>CO.DS.2</b>	<i>Interpret specifications and drawing notes by verbally demonstrating how specifications are used</i>	
			<b>CO.DS.3</b>	<i>Identify plot plan information such as reference points and bench marks by locating the reference point; using Pythagorean theory, a level and square, the student can lay out building as drawn on the plot plan</i>	
			<b>CO.DS.4</b>	<i>Interpret oral and written changes, and incorporate modifications into existing plans</i>	
			<b>CO.DS.5</b>	<i>Understand common abbreviations and symbols, and verbally describe all common drawing abbreviations and symbols on drawings</i>	
			<b>CO.DS.6</b>	<i>Interpret door, window and finish schedules by describing location, quantity and type of materials used at 95-percent accuracy</i>	
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Building Site and Materials (CO.BSM)</b>	
			<b>CO.BSM.1</b>	<i>Use builder's level and transit properly for layout and elevation to properly lay out and level the site at no more than one degree off level and out of square</i>	
			<b>CO.BSM.2</b>	<i>Identify, receive and inspect materials and ensure all required materials are in place prior to start of construction by using material lists supplied</i>	
			<b>CO.BSM.3</b>	<i>Store lumber and other materials properly by type and use in a safe and sequential manner</i>	
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Footings and Forms (CO.FF)</b>	
			<b>CO.FF.1</b>	<i>Construct and align various footing forms to include keyways, bulkheads, dowels and anchorages, as per site plans and various forms within a (+/-) 1/8" variable</i>	
			<b>CO.FF.2</b>	<i>Construct and align foundation wall and wall forms to include pilasters and beam pockets</i>	

			<b>CO.FF.3</b>	<i>Construct and align column and pier forms</i>
			<b>CO.FF.4</b>	<i>Maintain form materials properly</i>
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Rough Framing (CO.F)</b>
			<b>CO.F.1</b>	<i>Identify framing members and select materials for project</i>
			<b>CO.F.2</b>	<i>Frame and install sill plate, girders, floor joists and bridging</i>
			<b>CO.F.3</b>	<i>Frame floor</i>
			<b>CO.F.4</b>	<i>Install sub-floor</i>
			<b>CO.F.5</b>	<i>Build or erect safe scaffolding to meet OSHA standards</i>
			<b>CO.F.6</b>	<i>Frame and brace walls to include corners, openings, trimmers, cripples, partitions, plumbing partitions, fixture backing and sheathing</i>
			<b>CO.RF.7</b>	<i>Frame stair stringer and other components</i>
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Roof Framing (CO.RF)</b>
			<b>CO.RF.1</b>	<i>Identify types and components of roof construction and verbally describe all typical components of roof construction identified on the project drawings</i>
			<b>CO.RF.2</b>	<i>Determine rafter lengths from a rafter scale</i>
			<b>CO.RF.3</b>	<i>Calculate and use the rise and run of a common roof</i>
			<b>CO.RF.4</b>	<i>Lay out a common roof plan</i>
			<b>CO.RF.5</b>	<i>Lay out, cut and install common rafters, ridge board, collar ties, gambrel rafters, valley rafters, valley jack rafters, tail rafters, hip rafters, hip jack rafters and cripple jack rafters</i>
			<b>CO.RF.6</b>	<i>Frame roof openings, dormers and saddles</i>
			<b>CO.RF.7</b>	<i>Lay out, cut and install roof trusses (purling)</i>
			<b>CO.RF.8</b>	<i>Install roof sheathing</i>
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Exterior Finishing (CO.EF)</b>
			<b>CO.EF.1</b>	<i>Install window and doorframes as per project drawings and manufacturer's standards</i>
			<b>CO.EF.2</b>	<i>Measure, cut and install trim for window and door frames within 1/16"</i>
			<b>CO.EF.3</b>	<i>Install corner boards, moldings or metal/vinyl corners within 1/16"</i>
			<b>CO.EF.4</b>	<i>Install wood bevel and lap siding and aluminum or vinyl siding as per project drawings and manufacturer's recommendations</i>
			<b>CO.EF.5</b>	<i>Install wood shingles and miter corners as per industry standards</i>
			<b>CO.EF.6</b>	<i>Install exterior finish rake, open cornice and box cornice as per project drawings and within 1/8"</i>

<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Interior Finishing (CO.IF)</b>
			<b>CO.IF.1</b>	<i>Measure, cut and install gypsum board to meet drawing specs and industry standards</i>
			<b>CO.IF.2</b>	<i>Cut and install paneling while trimming to fit in prescribed locations within 1/16" for paneling and 1/16" for trim</i>
			<b>CO.IF.3</b>	<i>Fit and hang doors and trim to include swinging, sliding, folding and pocket doors to industry and manufacturers' standards</i>
			<b>CO.IF.4</b>	<i>Construct closets and built-in units and install accessories as per drawing specs and manufacturers' recommendations</i>
			<b>CO.IF.5</b>	<i>Cut and install crown molding or other moldings within 1/16"</i>
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Stairs (CO.S)</b>
			<b>CO.S.1</b>	<i>Lay out a straight run stringer and a two-flight stringer set with landing using a carpenter square within a 1/16" variable</i>
			<b>CO.S.2</b>	<i>Calculate rise, run and tread width within 1/16"</i>
			<b>CO.S.3</b>	<i>Cut and install stair treads and stair skirt within a 1/16" variable</i>
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Lumber (CO.L)</b>
			<b>CO.L.1</b>	<i>Match letters designating uses in plywood or composition board to their current application at 80 percent accuracy</i>
			<b>CO.L.2</b>	<i>Match at least two examples each of common hardwoods and softwoods to their uses</i>
			<b>CO.L.3</b>	<i>Identify types of trim and moldings, and describe use when prompted</i>
			<b>CO.L.4</b>	<i>Identify common defects in lumber</i>
			<b>CO.L.5</b>	<i>Write a requisition for ordering lumber based on a given material list</i>
			<b>CO.L.6</b>	<i>Calculate board feet using the standard formula</i>
<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Hand Tools (CO.HT)</b>
			<b>CO.HT.1</b>	<i>Inspect and properly use a sliding T-bevel as per manufacturers' recommendations</i>
			<b>CO.HT.2</b>	<i>Inspect and properly use a tape measure as per manufacturers' recommendations</i>
			<b>CO.HT.3</b>	<i>Inspect and properly use a combination square/speed square as per manufacturers' recommendations</i>
			<b>CO.HT.4</b>	<i>Inspect and properly use a hammer as per manufacturers' recommendations</i>
			<b>CO.HT.5</b>	<i>Inspect and properly use a punch as per manufacturers' recommendations</i>
			<b>CO.HT.6</b>	<i>Inspect and properly use a handsaw as per manufacturers' recommendations</i>
			<b>CO.HT.7</b>	<i>Inspect and properly use a nail set as per manufacturers' recommendations</i>
			<b>CO.HT.8</b>	<i>Inspect and properly use a wood chisel as per manufacturers' recommendations</i>
			<b>CO.HT.9</b>	<i>Inspect and properly use a carpenter's level as per manufacturers' recommendations</i>
			<b>CO.HT.10</b>	<i>Inspect and properly use a framing square as per manufacturers' recommendations</i>
			<b>CO.HT.11</b>	<i>Inspect and properly use a hand plane as per manufacturers' recommendations</i>

<b>2</b>	<b>1</b>	<b>N</b>	<b>CODE</b>	<b>Power Tools (CO.PT)</b>
			<b>CO.PT.1</b>	<i>Inspect and properly operate a reciprocating (jig saw) as per manufacturers' recommendations</i>
			<b>CO.PT.2</b>	<i>Inspect and properly operate a miter saw as per manufacturers' recommendations</i>
			<b>CO.PT.3</b>	<i>Inspect and properly operate a hand drill as per manufacturers' recommendations</i>
			<b>CO.PT.4</b>	<i>Inspect and properly operate a belt sander as per manufacturers' recommendations</i>
			<b>CO.PT.5</b>	<i>Inspect and properly operate a circular saw as per manufacturers' recommendations</i>
			<b>CO.PT.6</b>	<i>Inspect and properly operate a jig saw as per manufacturers' recommendations</i>
			<b>CO.PT.7</b>	<i>Inspect and properly operate a table saw as per manufacturers' recommendations</i>
			<b>CO.PT.8</b>	<i>Inspect and properly operate a jointer/planer as per manufacturers' recommendations</i>
			<b>CO.PT.9</b>	<i>Inspect and properly operate a finish sander as per manufacturers' recommendations</i>
			<b>CO.PT.10</b>	<i>Inspect and properly operate a portable hand router as per manufacturers' recommendations</i>
			<b>CO.PT.11</b>	<i>Inspect and properly operate a pneumatic nailer as per manufacturers' recommendations</i>