

End of Course (EOC) Test Blueprints

Structural Systems

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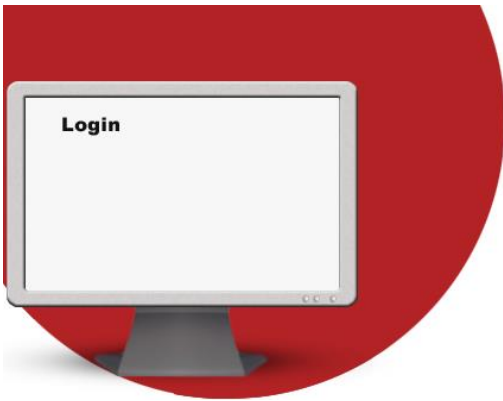




About Test Blueprints

Test blueprints are created to provide guidance to Subject Matter Experts (SMEs) during the item writing phase of test development. In addition, we believe that they can assist those instructors who did not participate in item writing (and administrators) to understand the broad content of the item bank. Items are formally allocated across a course outline in a three-step process*:

1. CETE psychometricians use a formula which assumes that all competencies within a course outline are *essential* and of equal importance to produce a suggested test blueprint for review by Ohio Department of Education program specialists and SMEs.
2. SMEs are formed into small groups during item writing and focus on writing a specific EOC test. Once in small groups, SMEs review the course outline and associated test blueprint and have the ability to make revisions/changes to the blueprint with a persuasive rationale based on their experience and expertise.
3. The blueprints created during small group work must be approved by the larger/full panel of SMEs attending an item writing workshop, which is the last step and produces the final blueprint which is summarized here.



Test blueprints can provide high-level guidance to instructors on preparing students for testing. It is important to keep in mind that the blueprint is a tool that is used when developing the test item bank during initial item writing and test creation. As with all tests, the End-of-Course test forms are a sample of the item bank.

Interpreting the Blueprints

Test blueprints display the total number of test items SMEs planned to write to a particular *outcome* (as designated in the course outline created by the Ohio Department of Education Office of Career-Technical Education or by a vendor). The blueprint describes the item bank which is the total pool of test items created. Final test forms of 40-items are created from the item bank.

*This process for producing test blueprints was implemented October 1, 2015. All tests created prior to this date were done so under a different blueprint process and therefore will not have these blueprint reports available.

Learn more at cete.osu.edu/expertise/assessment

Construction Technology-Core and Sustainable Construction

ODE Subject Code: 178000

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 1. Business Operations/21st Century Skills		
1.01	Employability Skills	8.54
1.02	Leadership and Communications	7.32
1.03	Business Ethics and Law	4.88
1.04	Knowledge Management and Information Technology	2.44
1.05	Global Environment	4.88
1.06	Business Literacy	2.44
1.09	Financial Management	3.66
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	19.51
2.02	Personal Safety	6.10
Strand 6. Planning Design		
6.04	Construction Drawings	7.32
6.05	Construction Math	10.98
Strand 7. Construction and Facility Maintenance		
7.01	Construction Scheduling	7.32
7.02	Field Organization	7.32
7.05	Maintenance Operations	7.32



Carpentry and Masonry Technical Skills

ODE Subject Code: 178001

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	2.41
2.02	Personal Safety	2.41
Strand 3. Structural Construction		
3.01	Brick, Block, and Concrete	14.46
3.02	Site Management	6.02
3.04	Floor Framing	14.46
3.05	Wall Framing	14.46
3.06	Roof Framing	14.46
3.07	Exterior Finish Work	7.23
3.08	Stairs	15.66
Strand 6. Planning Design		
6.04	Construction Drawings	8.43
6.05	Construction Math	8.43



Mechanical, Electrical and Plumbing Systems

ODE Subject Code: 178002

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	11.11
2.02	Personal Safety	12.96
2.04	Equipment and Machinery Preventative Maintenance	3.70
Strand 4. Low Voltage Systems		
4.01	Electrical Theory	12.96
4.02	Circuits	12.96
4.04	Low Voltage Systems	9.26
4.05	Electrical Wiring	12.96
Strand 5. Environmental Systems and Plumbing		
5.01	Refrigeration	11.11
5.02	Heating, Ventilation, Air Conditioning/Refrigeration (HVAC/R) Systems Installation	12.96
5.03	Service Maintenance	14.29
5.06	Sheet Metal	20.00
5.07	Drainage	14.29
5.08	Water Systems	22.86
Strand 6. Planning Design		
6.04	Construction Drawings	14.29
6.05	Construction Math	14.29



Structural Systems

ODE Subject Code: 178003

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 3. Structural Construction		
3.04	Floor Framing	20.00
3.05	Wall Framing	25.88
3.06	Roof Framing	21.18
3.08	Stairs	14.12
Strand 6. Planning Design		
6.04	Construction Drawings	9.41
6.05	Construction Math	9.41



Structural Coverings and Finishes

ODE Subject Code: 178004

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	12.50
2.02	Personal Safety	6.82
Strand 3. Structural Construction		
3.06	Roof Framing	5.68
3.07	Exterior Finish Work	18.18
3.09	Interior Finish Work	28.41
Strand 6. Planning Design		
6.04	Construction Drawings	18.18
6.05	Construction Math	10.23



Masonry-Brick and Block

ODE Subject Code: 178005

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	24.71
2.02	Personal Safety	12.94
Strand 3. Structural Construction		
3.01	Brick, Block, and Concrete	36.47
Strand 6. Planning Design		
6.04	Construction Drawings	20.00
6.05	Construction Math	5.88



Concrete and Residential Masonry

ODE Subject Code: 178006

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	10.59
2.02	Personal Safety	5.88
Strand 3. Structural Construction		
3.01	Brick, Block, and Concrete	60.00
Strand 6. Planning Design		
6.04	Construction Drawings	11.76
6.05	Construction Math	11.76



Construction Electrical Systems

ODE Subject Code: 178007

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	5.75
2.02	Personal Safety	4.60
2.04	Equipment and Machinery Preventative Maintenance	4.60
Strand 4. Low Voltage Systems		
4.01	Electrical Theory	28.74
4.02	Circuits	9.20
4.03	Codes and Regulations	6.90
4.05	Electrical Wiring	18.39
Strand 6. Planning Design		
6.04	Construction Drawings	10.34
6.05	Construction Math	11.49



Residential Electrical Systems

ODE Subject Code: 178008

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	8.51
2.02	Personal Safety	4.26
2.04	Equipment and Machinery Preventative Maintenance	0.00
Strand 4. Low Voltage Systems		
4.01	Electrical Theory	25.53
4.02	Circuits	11.70
4.03	Codes and Regulations	12.77
4.04	Low Voltage Systems	3.19
4.05	Electrical Wiring	24.47
Strand 6. Planning Design		
6.04	Construction Drawings	5.32
6.05	Construction Math	4.26



Residential and Commercial Plumbing Systems

ODE Subject Code: 178011

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 5. Environmental Systems and Plumbing		
5.07	Drainage	36.47
5.08	Water Systems	47.06
5.09	Fuel Piping	12.94
Strand 6. Planning Design		
6.04	Construction Drawings	3.53



Construction Safety and Crew Leadership

ODE Subject Code: 178018

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 1. Business Operations/21st Century Skills		
1.02	Leadership and Communications	2.30
1.03	Business Ethics and Law	3.45
1.04	Knowledge Management and Information Technology	0.00
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	13.79
2.02	Personal Safety	10.34
2.03	Equipment Operation	11.49
2.04	Equipment and Machinery Preventative Maintenance	5.75
Strand 3. Structural Construction		
3.03	Excavation	11.49
3.10	Remodeling	10.34
Strand 4. Low Voltage Systems		
4.03	Codes and Regulations	8.05
Strand 5. Environmental Systems and Plumbing		
5.08	Water Systems	2.30
5.09	Fuel Piping	2.30
Strand 7. Construction and Facility Maintenance		
7.04	Custodial Operations	10.34
7.05	Maintenance Operations	8.05



Plan Reading
ODE Subject Code: 178019

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 3. Structural Construction		
3.02	Site Management	9.41
Strand 6. Planning Design		
6.01	Proposals	21.18
6.04	Construction Drawings	44.71
6.05	Construction Math	24.71



Construction Management

ODE Subject Code: 178022

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 1. Business Operations/21st Century Skills		
1.01	Employability Skills	4.71
1.03	Business Ethics and Law	1.18
1.06	Business Literacy	2.35
1.07	Entrepreneurship/Entrepreneurs	3.53
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	18.82
Strand 3. Structural Construction		
3.02	Site Management	14.12
Strand 6. Planning Design		
6.01	Proposals	11.76
6.02	Community Planning	5.88
6.05	Construction Math	14.12
Strand 7. Construction and Facility Maintenance		
7.01	Construction Scheduling	5.88
7.02	Field Organization	17.65



Remodeling/Renovation

ODE Subject Code: 178023

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	10.47
2.02	Personal Safety	5.81
2.03	Equipment Operation	4.65
Strand 3. Structural Construction		
3.02	Site Management	2.33
3.10	Remodeling	23.26
Strand 5. Environmental Systems and Plumbing		
5.04	Energy Audit	4.65
Strand 6. Planning Design		
6.04	Construction Drawings	34.88
6.05	Construction Math	8.14
Strand 7. Construction and Facility Maintenance		
7.02	Field Organization	5.81



Heavy Equipment Operations

ODE Subject Code: 178026

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	24.42
2.02	Personal Safety	11.63
2.03	Equipment Operation	15.12
2.04	Equipment and Machinery Preventative Maintenance	15.12
Strand 3. Structural Construction		
3.03	Excavation	33.72



Construction Site Preparation

ODE Subject Code: 178027

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.01	Site Safety	27.87
2.02	Personal Safety	8.20
Strand 3. Structural Construction		
3.01	Brick, Block, and Concrete	14.75
3.02	Site Management	11.48
Strand 6. Planning Design		
6.03	Drafting	6.56
6.04	Construction Drawings	24.59
6.05	Construction Math	13.11
Strand 7. Construction and Facility Maintenance		
7.01	Construction Scheduling	6.56
7.02	Field Organization	14.75



Principles of Wood Construction

ODE Subject Code: 178030

Outcome #	Outcome Name	% Items Approved by SMEs
Strand 2. Safety, Tools and Equipment		
2.1	Site Safety	16.84
2.2	Personal Safety	10.53
Strand 3. Structural Construction		
3.4	Floor Framing	10.53
3.5	Wall Framing	24.21
3.6	Roof Framing	10.53
3.7	Exterior Finish Work	3.16
3.9	Interior Finish Work	10.53
3.10	Remodeling	3.16
Strand 6. Planning Design		
6.1	Proposals	3.16
6.5	Construction Math	7.37

