



# End of Course (EOC) Bank Blueprints

# Animal Science and Management

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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 review the blueprint as a large group before item writing for a specific EOC test. There and in small groups, SMEs review the course outline and have the ability to make changes to the blueprint with a documented rationale based on their experience and expertise.
3. Any revisions during small group work must be approved by the larger panel of SMEs attending an item writing workshop, which is the last step and produces the final blueprint which is summarized in this document.



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 structure of 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 newer process for producing test blueprints was implemented October 1, 2015. Item banks created prior to this date were completed under a different blueprint process and therefore we are looking backward to provide the structure of the item bank. As revisions are completed for those career fields, for example Information Technology (2017-18), the blueprint process used will be the newer model.

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**Agriculture Food and Natural Resources**  
ODE Subject Code: 010105



Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.2.	Leadership and Communications	2.22
1.4.	Knowledge Management and Information Technology	1.11
1.6.	Business Literacy	1.11
1.9.	Financial Management	2.22
1.12.	Site and Personal Safety Procedures	8.89
<b>Strand 2. Animal Science</b>		
2.3.	Care and Management	13.33
<b>Strand 3. Biotechnology</b>		
3.1.	Handling, Preparation, Storage and Disposal	3.33
3.4.	Molecular-Genetics Technology	5.56
3.6.	Culturing	3.33
<b>Strand 4. Power Systems</b>		
4.1.	Tool, Stationary and Mobile Equipment Maintenance	1.11
4.3.	Engines	5.56
<b>Strand 5. Structural Engineering</b>		
5.3.	Design and Estimate	3.33
5.6.	Construction	5.56
5.10.	Joining and Cutting Metals with Heat	3.33
<b>Strand 6. Environmental Science</b>		
6.1.	Soils	11.11
6.2.	Water Quality	3.33
6.11	Habitat Management and Restoration	3.33
<b>Strand 7. Food Sciences</b>		
7.2.	Quality Assurance	3.33
7.5.	Food Product Development	3.33
<b>Strand 8. Plant Science</b>		
8.1.	Plant Nutrition	4.44
8.4.	Growth and Management	5.56
<b>Strand 9. Energy</b>		
9.1.	Energy	5.56



# Animal Science and Technology

ODE Subject Code: 010910

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.3.	Business Ethics and Law	1.09
1.6.	Business Literacy	1.09
1.11.	Principals of Business Economics	3.26
<b>Strand 2. Animal Science</b>		
2.1.	Nutrition	10.87
2.2.	Body Systems	10.87
2.3.	Care and Management	14.13
2.4.	Recognizing Diseases and Disorders	5.43
2.5.	Animal Health	5.43
2.6.	Population Management	15.22
2.7.	Animal Behavior	7.61
<b>Strand 3. Biotechnology</b>		
3.4.	Molecular-Genetics Technology	3.26
<b>Strand 4. Power Systems</b>		
4.1.	Tool, Stationary and Mobile Equipment Maintenance	3.26
<b>Strand 6. Environmental Science</b>		
6.7.	Solid Waste and Renewable Resource Management	3.26
<b>Strand 7. Food Sciences</b>		
7.1.	The Science of Food	3.26
7.3.	Meat Science	3.26
7.4.	Food Production and Processing	2.17
<b>Strand 8. Plant Science</b>		
8.1.	Plant Nutrition	3.26
<b>Strand 9. Energy</b>		
9.1.	Energy	3.26



# Medical Terminology

ODE Subject Code: 072150

Outcome #	Outcome Name	% Items In Bank
<b>Strand 2. Human Body System</b>		
2.1.	Human Body Form, Function, and Pathophysiology	25.81
2.3.	Medical Terminology	18.28
<b>Strand 3. Therapeutic Interventions</b>		
3.3.	Pharmaceutical Interventions	7.53
<b>Strand 4. Assistive Care</b>		
4.1.	Scope of Practice	15.05
4.3.	Pathogenic Microorganisms, Infection Control, and Infection	4.30
<b>Strand 5. Bioscience Research and Development</b>		
5.3.	Microbiology Testing and Technology	5.38
<b>Strand 6. Health Information Management</b>		
6.1.	Health Information Literacy	10.75
6.2.	Confidentiality, Privacy, and Security	6.45
6.3.	Electronic Health Records and Coding	6.45



# Companion Animal Selection Nutrition and Management

ODE Subject Code: 010925

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Business Ethics and Law	3.37
1.2.	Leadership and Communications	4.49
1.3.	Business Ethics and Law	5.62
1.6.	Business Literacy	3.37
1.8.	Operational Management	4.49
1.10.	Sales and Marketing	6.74
1.12.	Site and Personal Safety Procedures	5.62
<b>Strand 2. Animal Science</b>		
2.1.	Nutrition	12.36
2.2.	Body Systems	5.62
2.3.	Care and Management	21.35
2.5.	Animal Health	3.37
2.6.	Population Management	8.99
2.7.	Animal Behavior	11.24
<b>Strand 7. Food Sciences</b>		
7.1.	The Science of Food	2.25
<b>Strand 9. Energy</b>		
9.3.	Biomass	1.12



# Equine Selection, Nutrition, and Management

ODE Subject Code: 010935

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	4.26
1.2.	Leadership and Communications	6.38
1.3.	Business Ethics and Law	4.26
1.6.	Business Literacy	3.19
1.8.	Operational Management	3.19
1.10.	Sales and Marketing	3.19
<b>Strand 2. Animal Science</b>		
2.1.	Nutrition	11.70
2.2.	Body Systems	3.19
2.3.	Care and Management	21.28
2.4.	Recognizing Disease and Disorders	6.38
2.5.	Animal Health	8.51
2.6.	Population Management	10.64
2.7.	Animal Behavior	13.83



# Zoo and Aquarium

ODE Subject Code: 010940

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	5.21
1.3.	Business Ethics and Law	5.21
1.4.	Knowledge Management and Information Technology	5.21
1.5.	Global Environment	3.13
1.6.	Business Literacy	4.17
<b>Strand 2. Animal Science</b>		
2.1.	Nutrition	8.33
2.3.	Care and Management	23.96
2.4.	Recognizing Diseases and Disorders	10.42
2.6.	Population Management	17.71
2.7.	Animal Behavior	16.67





## Veterinary Science

ODE Subject Code: 010930

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.2.	Leadership and Communications	9.09
1.3.	Business Ethics and Law	2.02
1.10.	Sales and Marketing	1.01
1.12.	Site and Personal Safety Procedures	2.02
<b>Strand 2. Animal Science</b>		
2.2.	Body Systems	31.31
2.3.	Care and Management	4.04
2.4.	Recognizing Diseases and Disorders	28.28
2.5.	Animal Health	8.08
2.6.	Population Management	3.03
2.7.	Animal Behavior	4.04
<b>Strand 3. Biotechnology</b>		
3.8.	Research and Experiments	7.07



# Business Management for Agricultural and Environmental Systems

ODE Subject Code: 010115

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	12.64
1.2.	Leadership and Communications	13.79
1.3.	Business Ethics and Law	5.75
1.4.	Knowledge Management and Information Technology	4.60
1.5.	Global Environment	1.15
1.6.	Business Literacy	14.94
1.7.	Entrepreneurship/Entrepreneurs	8.05
1.8.	Operations Management	10.34
1.9.	Financial Management	17.24
1.10.	Sales and Marketing	6.90
<b>Strand 7. Food Sciences</b>		
7.7.	Biosecurity	4.60



# Plant and Horticulture Science

ODE Subject Code: 010155

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	8.70
1.2.	Leadership and Communications	7.61
1.3.	Business Ethics and Law	3.26
1.4.	Knowledge Management and Information Technology	3.26
1.6.	Business Literacy	2.17
1.9.	Financial Management	2.17
1.10.	Sales and Marketing	3.26
<b>Strand 5. Structural Engineering</b>		
5.8.	Water Distribution Systems	5.43
<b>Strand 6. Environmental Science</b>		
6.1.	Soils	9.78
6.2.	Water Quality	5.43
<b>Strand 8. Plant Science</b>		
8.1.	Plant Nutrition	10.87
8.2.	Plant Reproduction	7.61
8.3.	Pest Management	10.87
8.4.	Growth and Management	8.70
8.5.	Harvesting	9.78
8.6.	Handling and Storage	1.09



# Animal Anatomy and Physiology

ODE Subject Code: 010945

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.12.	Site and Personal Safety Procedures	11.22
<b>Strand 2. Animal Science</b>		
2.2.	Body Systems	67.35
2.4.	Recognizing Disease and Disorders	4.08
2.6.	Population Management	6.12
2.7.	Animal Behavior	11.22



## Animal Health

ODE Subject Code: 010915

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.2.	Leadership and Communications	3.26
<b>Strand 2. Animal Science</b>		
2.1.	Nutrition	14.13
2.2.	Body Systems	9.78
2.3.	Care and Management	15.22
2.4.	Recognizing Diseases and Disorders	18.48
2.5.	Animal Health	15.22
2.6.	Population Management	4.35
2.7.	Animal Behavior	10.87
<b>Strand 3. Biotechnology</b>		
3.8.	Research and Experiments	4.35
<b>Strand 7. Food Sciences</b>		
7.7.	Biosecurity	4.35



# Livestock Selection Nutrition and Management

ODE Subject Code: 010920

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.6.	Business Literacy	1.01
1.8.	Operations Management	1.01
1.11.	Principles of Business Economic	1.01
<b>Strand 2. Animal Science</b>		
2.1.	Nutrition	17.17
2.2.	Body Systems	13.13
2.3.	Care and Management	11.11
2.4.	Recognizing Diseases and Disorders	4.04
2.5.	Animal Health	3.03
2.6.	Population Management	11.11
2.7.	Animal Behavior	11.11
<b>Strand 3. Biotechnology</b>		
3.4.	Molecular-Genetics Technology	4.04
<b>Strand 6. Environmental Science</b>		
6.7.	Solid Waste and Renewable Resource Management	3.03
<b>Strand 7. Food Science</b>		
7.1.	The Science of Food	3.03
7.2.	Quality Assurance	3.03
7.3.	Meat Science	4.04
7.7.	Biosecurity	6.06
<b>Strand 9. Energy</b>		
9.3.	Biomass	3.03



# Meat Science and Technology

ODE Subject Code: 011020

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.2.	Leadership and Communications	2.33
1.3.	Business Ethics and Law	4.65
1.6.	Business Literacy	2.33
1.8.	Operations Management	2.33
1.9.	Financial Management	2.33
1.10.	Sales and Marketing	4.65
1.12.	Site and Personal Safety Procedures	10.47
<b>Strand 4. Power Systems</b>		
4.1.	Tool, Stationary and Mobile Equipment Maintenance	10.47
4.2.	Equipment Operations	6.98
<b>Strand 6. Environmental Science</b>		
6.7.	Solid Waste and Renewable Resource Management	2.33
<b>Strand 7. Plant Science</b>		
7.1.	The Science of Food	9.30
7.3.	Meat Science	11.63
7.4.	Food Production and Processing	9.30
7.5.	Food Product Development	2.33
7.6.	Food Safety and Sanitation	12.79
7.7.	Biosecurity	5.81



# Environmental Science for Agriculture and Natural Resources

ODE Subject Code: 010720

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	2.13
1.2.	Leadership and Communications	3.19
1.3.	Business Ethics and Law	1.06
1.11.	Principles of Business Economic	3.19
1.12.	Site and Personal Safety Procedures	2.13
<b>Strand 2. Animal Science</b>		
2.3.	Care and Management	1.06
2.4.	Recognizing Diseases and Disorders	2.13
2.6.	Population Management	1.06
<b>Strand 3. Biotechnology</b>		
3.8.	Research and Experiments	9.57
<b>Strand 6. Environmental Science</b>		
6.1.	Soils	7.45
6.2.	Water Quality	5.32
6.3.	Air Quality	3.19
6.4.	Water Use and Management	3.19
6.5.	Potable Water Treatment	2.13
6.6.	Wastewater Operations	5.32
6.7.	Solid Waste and Renewable Resource Management	7.45
6.8.	Contaminants and Pollution Control	7.45
6.9.	Hazardous Materials and Waste Management	5.32
6.10.	Ecosystems	8.51
6.11	Habitat Management and Restoration	8.51
<b>Strand 8. Plant Science</b>		
8.3.	Pest Management	2.13
<b>Strand 9. Energy</b>		
9.1.	Energy Source	8.51