



## End of Course (EOC) Bank Blueprints

# Air Transportation

### Table of Contents

Table of Contents.....	1
About Test Blueprints.....	2
Aviation.....	3
Aviation Maintenance General.....	4
Aviation Structure and Design.....	5
Aviation Airframe Systems.....	6
Aviation Powerplant Theory and Maintenance.....	7
Aviation Powerplant Systems and Components.....	8
Aviation Meteorology.....	9
Aviation Airport Management.....	10
Aviation Pilot Training.....	11
Aviation Air Traffic Control.....	12

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**THE OHIO STATE UNIVERSITY**  
CENTER ON EDUCATION AND  
TRAINING FOR EMPLOYMENT

**Ohio** | Department  
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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). Blueprints describe 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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# Aviation

ODE Subject Code: 177013

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	1.33
1.2.	Leadership and Communications	1.33
1.3.	Business Ethics and Law	4.00
1.5.	Global Environment	4.00
<b>Strand 2. Safety, Tools, and Maintenance</b>		
2.2.	Personal Safety	8.00
<b>Strand 7. Aviation and Aeronautics</b>		
7.1.	Aviation	25.33
7.3.	Drawings	6.67
7.6.	Mathematics and Physical Principles	2.67
7.7.	Power Plant	10.67
7.8.	Airport Environments	16.00
7.10.	Meteorology	8.00
7.12.	Aerodynamics	12.00



# Aviation Maintenance General

ODE Subject Code: 177014

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Career Development</b>		
1.1.	Employability Skills	2.38
1.2.	Leadership and Communications	7.14
1.3.	Business Ethics and Law	8.33
1.4.	Knowledge Management and Information Technology	2.38
1.6.	Business Literacy	1.19
1.8.	Operations Management	1.19
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	3.57
2.2.	Personal Safety	2.38
2.3.	Tool and Equipment Preventive Maintenance	3.57
<b>Strand 7. Aviation and Aeronautics</b>		
7.3.	Drawings	3.57
7.4.	Materials and Processes	3.57
7.5.	Operations and Services	16.67
7.6.	Mathematics and Physical Principles	10.71
<b>Strand 8. Aircraft Systems</b>		
8.1.	Mechanics	3.57
8.6.	Landing Gear Systems	4.76
8.7.	Power Systems	4.76
8.8.	Control Systems	8.33
8.10.	Fuel Systems	4.76
8.14.	Instrument Systems	3.57
8.15.	Fire Protection Systems	3.57



# Aviation Structure and Design

ODE Subject Code: 177015

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Career Development</b>		
1.1.	Employability Skills	7.14
1.2.	Leadership and Communications	2.38
1.3.	Business Ethics and Law	3.57
1.4.	Knowledge Management and Information Technology	2.38
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	9.52
2.2.	Personal Safety	7.14
2.3.	Tool and Equipment Preventive Maintenance	13.10
<b>Strand 8. Aircraft Systems</b>		
8.2.	Airframe	19.05
8.3.	Sheet Metal and Non-Metallic Structures	19.05
8.4.	Metal Components	8.33
8.5.	Assembly and Rigging Operations	8.33



# Aviation Airframe Systems

ODE Subject Code: 177016

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1	Employability Skills	2.44
1.3	Business Ethics and Law	2.44
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	3.66
2.2.	Personal Safety	2.44
2.3.	Tool and Equipment Preventive Maintenance	6.10
<b>Strand 7. Aviation and Aeronautics</b>		
7.2.	Basic Electricity Concepts	45.12
<b>Strand 8. Aircraft Systems</b>		
8.9.	Instrument, Communication and Navigation Systems	7.32
8.11.	Electrical Systems	9.76
8.12.	Position, Warning and Hazard Control Systems	13.41
8.16.	Electrical, Ignition and Starting Systems	7.32



# Aviation Powerplant Theory and Maintenance

ODE Subject Code: 177017

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	8.22
1.2	Leadership and Communication	2.74
1.3.	Business Ethics and Law	1.37
1.4.	Knowledge Management and Information Technology	4.11
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	4.11
2.2.	Personal Safety	4.11
2.3.	Tool and Equipment Preventive Maintenance	5.48
<b>Strand 8. Aircraft Systems</b>		
8.13.	Engines	54.79
8.17.	Lubrication and Cooling Systems	15.07



# Aviation Powerplant Systems and Components

ODE Subject Code: 177018

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	3.16
1.3.	Business Ethics and Law	2.11
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	9.47
2.2.	Personal Safety	3.16
2.3.	Tool and Equipment Preventive Maintenance	8.42
<b>Strand 8. Aircraft Systems</b>		
8.10.	Fuel Systems	12.63
8.13.	Engines	4.21
8.17.	Lubrication and Cooling Systems	8.42
8.18.	Fuel Systems	13.68
8.19.	Induction and Exhaust System	18.95
8.20.	Propellers	11.58
8.21.	Unducted Fans and Auxiliary Power Units	4.21





# Aviation Meteorology

ODE Subject Code: 177019

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Business Operations/21st Century Skills</b>		
1.1.	Employability Skills	4.94
1.2.	Leadership and Communication	4.94
1.3.	Business Ethics and Law	4.94
1.4.	Knowledge Management and Information Technology	17.28
1.5.	Global Environment	3.70
1.6.	Business Literacy	3.70
1.8.	Operations Management	3.70
<b>Strand 7. Health Information Management</b>		
7.9.	Air Traffic Control and Communication	7.41
7.10.	Meteorology	45.68



# Aviation Airport Management

ODE Subject Code: 177020

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Career Development</b>		
1.1.	Employability Skills	4.94
1.2.	Leadership and Communications	6.17
1.3.	Business Ethics and Law	16.05
1.4.	Knowledge Management and Information Technology	1.23
1.6.	Business Literacy	2.47
1.7.	Entrepreneurship/Entrepreneurs	2.47
1.8.	Operations Management	7.41
1.9.	Financial Management	6.17
1.10.	Sales and Marketing	3.70
1.11.	Principles of Business Economics	3.70
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	8.64
2.2.	Personal Safety	6.17
<b>Strand 7. Aviation and Aeronautics</b>		
7.8.	Airport Environments	22.22
7.9.	Air Traffic Control and Communication	8.64

# Aviation Pilot Training

ODE Subject Code: 177021

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Career Development</b>		
1.1.	Employability Skills	2.86
1.2.	Leadership and Communications	5.71
1.3.	Business Ethics and Law	5.71
1.4.	Knowledge Management and Information Technology	2.86
1.6.	Business Literacy	1.43
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	4.29
2.2.	Personal Safety	5.71
<b>Strand 7. Aviation and Aeronautics</b>		
7.5.	Operations and Services	10.00
7.9.	Air Traffic Control and Communication	5.71
7.10.	Meteorology	14.29
7.11.	Flight Environment	20.00
7.12.	Aerodynamics	7.14
7.13.	Performance	10.00
7.14.	Human Factors	11.43
<b>Strand 8. Aircraft Systems</b>		
8.10.	Fuel Systems	5.71



# Aviation Air Traffic Control

ODE Subject Code: 177022

Outcome #	Outcome Name	% Items In Bank
<b>Strand 1. Career Development</b>		
1.1.	Employability Skills	3.75
1.2.	Leadership and Communications	3.75
1.3.	Business Ethics and Law	3.75
1.4.	Knowledge Management and Information Technology	2.50
1.5.	Global Environment	3.75
1.6.	Business Literacy	3.75
1.8.	Operations Management	3.75
<b>Strand 2. Safety, Tools and Maintenance</b>		
2.1.	Facility Safety	8.75
2.2.	Personal Safety	1.25
<b>Strand 7. Aviation and Aeronautics</b>		
7.9.	Air Traffic Control and Communication	27.50
7.10.	Meteorology	10.00
7.11.	Flight Environment	10.00
7.12.	Aerodynamics	7.50
7.13.	Performance	3.75
7.14.	Human Factors	6.25

