

The main focus of this guide covers how to give each student a test containing questions that are different from other students taking the same test (or at least not the exact same questions in the same order). However, this guide also covers asking the same questions but in a different order for each student and randomizing answer choices within a question.

Blackboard test randomization falls into three categories:

- **Randomizing Questions Presented (Different students get different questions)**  
A specified number of questions are randomly pulled from a larger question pool so that the probability of two students getting the same questions will be unlikely. The instructions for this are presented in this guide.
- **Randomizing Question Order (Same questions, different order)**  
Each student gets the same exact questions but the order of the questions will be different for each student. This requires randomization blocks and steps specific to this order randomization are on page 16, step 6.
- **Answer Randomization**  
The answers for a specific question are randomly ordered. Typically used for multiple-choice and multiple-response questions. The instructions for this are on page 19 of this guide and do not require randomization blocks.

**Before You Begin - Important Notes!**

- You cannot use Blackboard’s *Item Analysis* feature when using randomization.
- Implementing Blackboard can be problematic unless it is done correctly. We urge you also read the precautions in the “**Blackboard Tests**” guide at:  
[https://uscmarshall.service-now.com/kb\\_view\\_customer.do?sysparm\\_article=KB0000167](https://uscmarshall.service-now.com/kb_view_customer.do?sysparm_article=KB0000167)

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## How Question Randomization Works

Blackboard randomizes test questions by allowing you to insert *Randomization Blocks* into your test. Randomization blocks are comprised of questions that are randomly pulled from question pools. When a block pulls its questions, it allows the instructor to specify the pool (or pools) to pull from, the question type (or types) to include (e.g. multiple choice, fill in, etc.), and the total number of questions to be pulled.

The diagram below illustrates how randomizations blocks pull from question pools. Note that all questions in the same randomization block will be assigned the same number of points possible (no exceptions). In this example, all questions in Block I are worth 5 points each, all questions in Block II are worth 2 points each, and all questions in Block III are worth 1 point each. Note that this test also includes questions that are not in a randomization block so all students will get those questions.

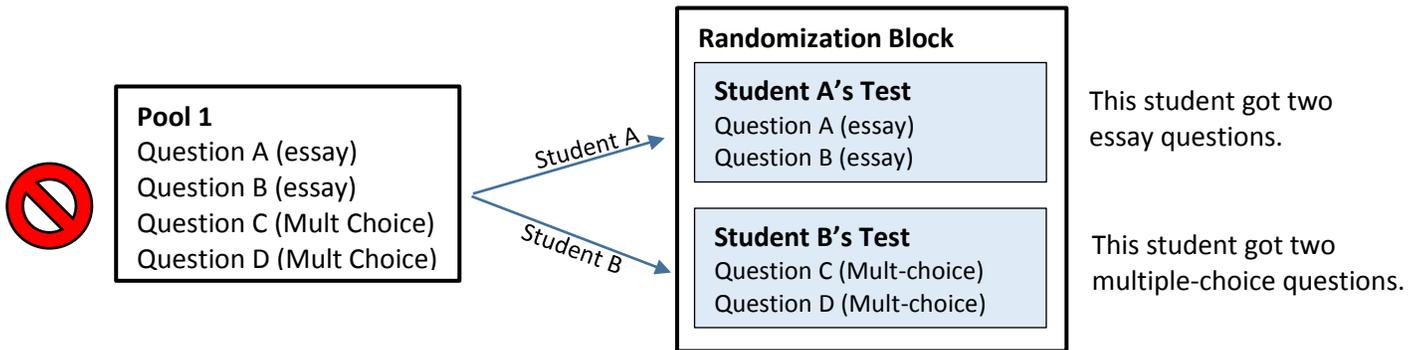


# Making Randomization Fair and Error Free: Pools and Randomization Blocks

Randomization is a useful feature to help prevent cheating but unless you structure your randomization blocks and pools carefully, you can end up with a test that is not fair to your students, does not cover the breadth of the course material you would like, contains questions that do not carry the weight you desire, or contains duplicate questions. This section discusses what can cause these undesirable circumstances and how to prevent them from occurring.

## Controlling the Number of Question Types Each Student Gets

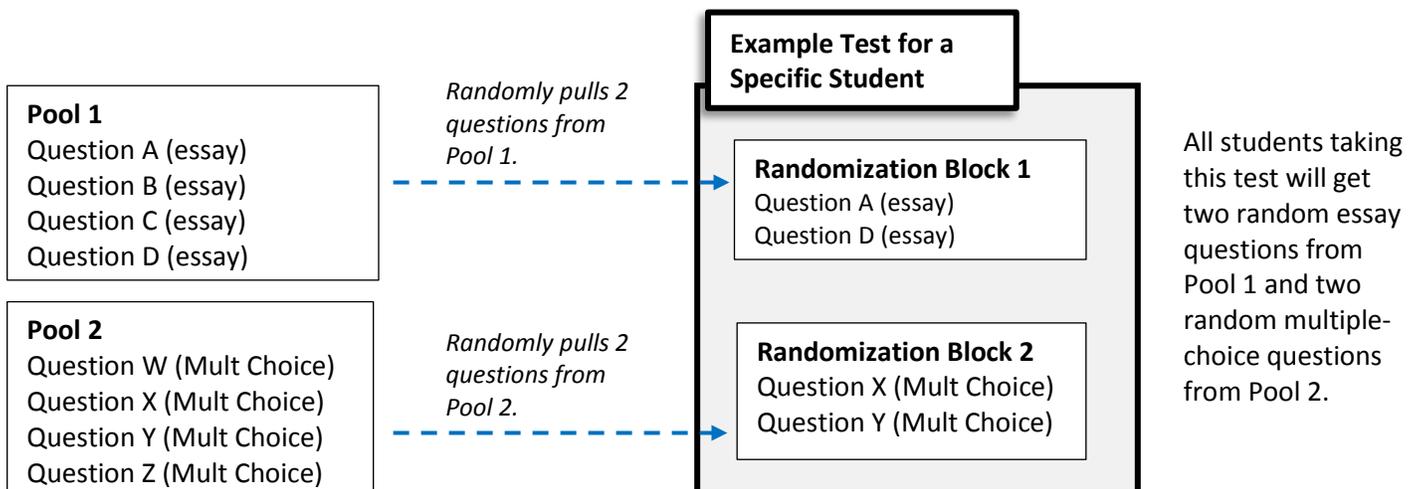
An unfair test can occur when a randomization block pulls multiple question types from a pool that contains multiple question types. For example, the randomization block below pulls two questions of any type from Pool 1. This resulted in *Student A* getting all essay questions and *Student B* getting all multiple-choice questions. Blackboard does not attempt distribute different question types evenly. If we assume essay questions are more difficult than multiple-choice questions then *Student A* took a harder test than *Student B*.



There are two approaches instructors can take to ensuring students get an equal number of different question types. They are shown on this page and the top of the next page.

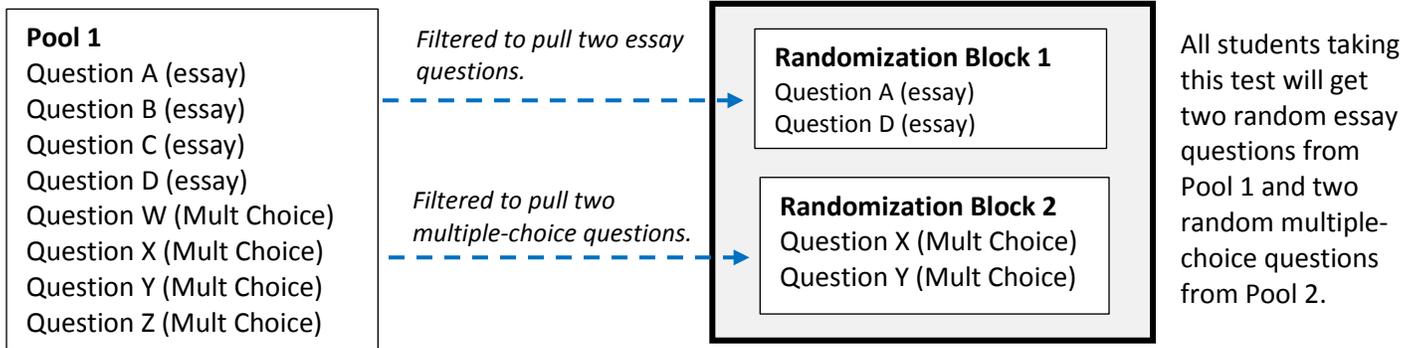
## Solution 1: Each Pool Contains Just One Question Type and Randomization Blocks Pull from Separate Pools

To ensure all students get the same number of question types (e.g. two essay and two multiple choice), one method is to use two pools and two randomization blocks. In the example below, Randomization Block 1 pulls two questions just from Pool 1 (which contains just essay questions) and Randomization Block 2 pulls just two questions from Pool 2 (which contains just multiple-choice questions).



### Solution 2: Multiple Randomization Blocks Pull Separate Questions Types from the Same Pool

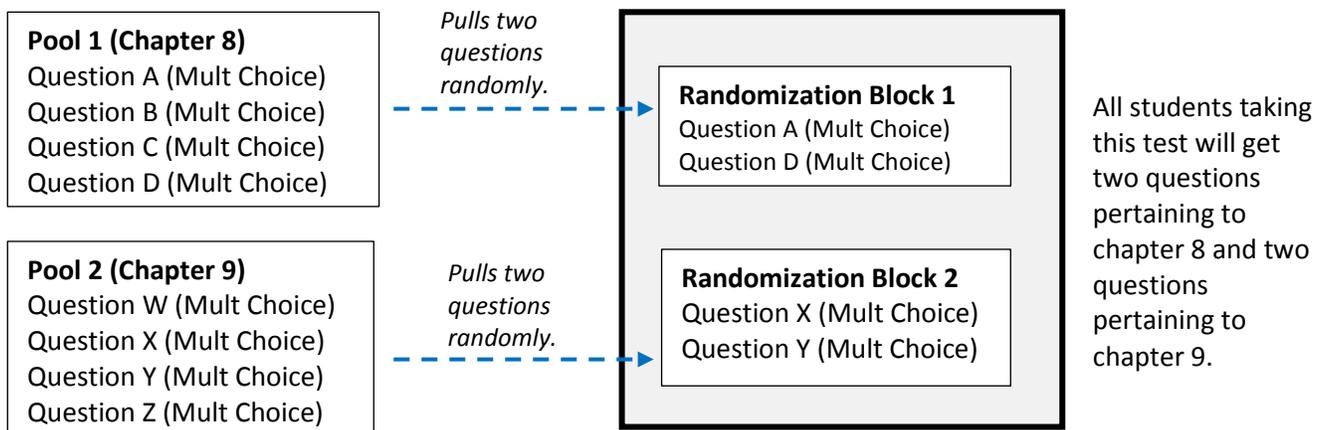
You can also ensure an equal number of questions types by having different randomization blocks pull different question types from the same pool (or multiple pools) through filtering.



### Controlling Breadth of Material

If you have a test that covers several chapters of a book or different topics and you would like to make sure each student gets a few questions pertaining to each chapter or topic, then break the different chapters or topics into different pools and pull using separate randomization blocks.

In the example below, all questions pertaining to Chapter 8 are in Pool 1 and all questions pertaining to Chapter 9 are in Pool 2. The instructor has then setup Randomization Block 1 to pull two questions from Pool 1 and Randomization Block 2 to pull two questions from Pool 2. This ensures that each student gets two questions from Chapter 8 and two questions from Chapter 9.



## Controlling Question Points

All questions in the same randomization block are always assigned the same number of points possible. There is no way to have questions in the same randomization block have different point values. If you are using randomization and questions need to have different point values, there are a couple of approaches you can take.

2 - 4. Random Block

Points per question: 10

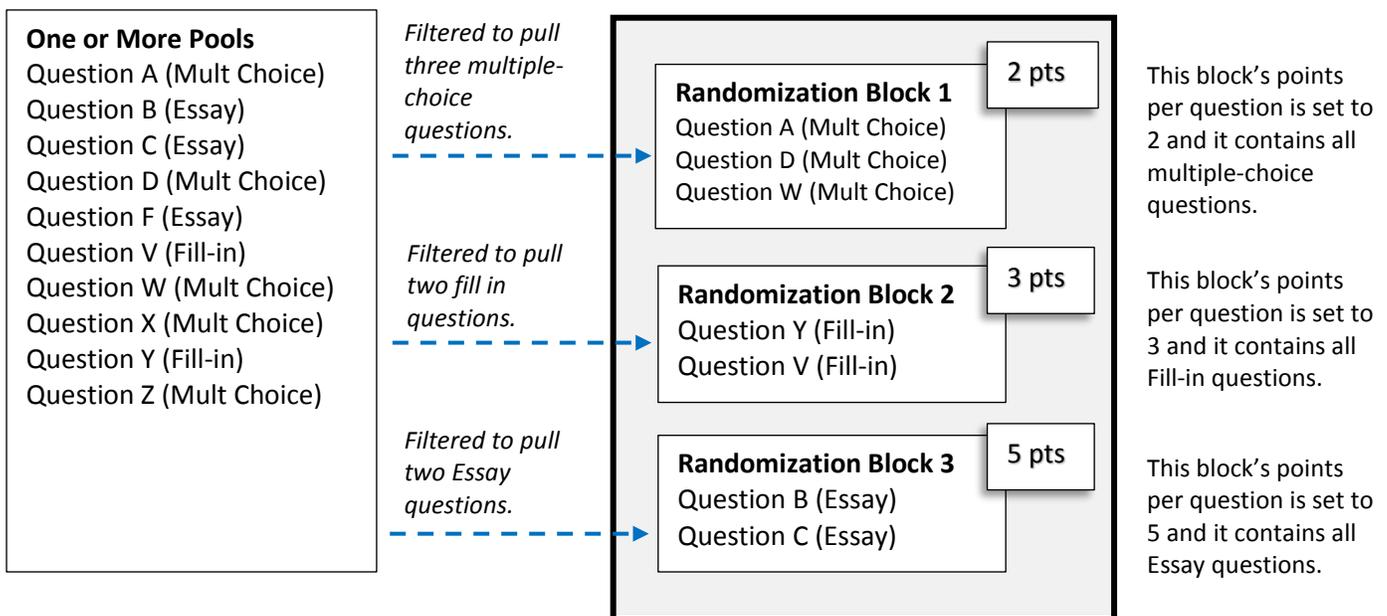
Total Points: 30

|                                 |                                  |
|---------------------------------|----------------------------------|
| Total Questions:                | 6                                |
| Number of Questions to display: | 3                                |
| Source Pool:                    | Final Exam 2017                  |
| Question Types:                 | Multiple Answer, Multiple Choice |

▶ [Preview questions that match selected criteria](#)

### Solution 1: Question Points Possible are based on Question Type

This solution works when question points are consistently based on question type. For example, essay questions should be worth 5 points, multiple-choice questions should be worth 2 points, and fill in questions should be worth 3 points. In this situation, each randomization block will pull a specific question type from one or more pools and each randomization block will have its points per question set. An example is below.



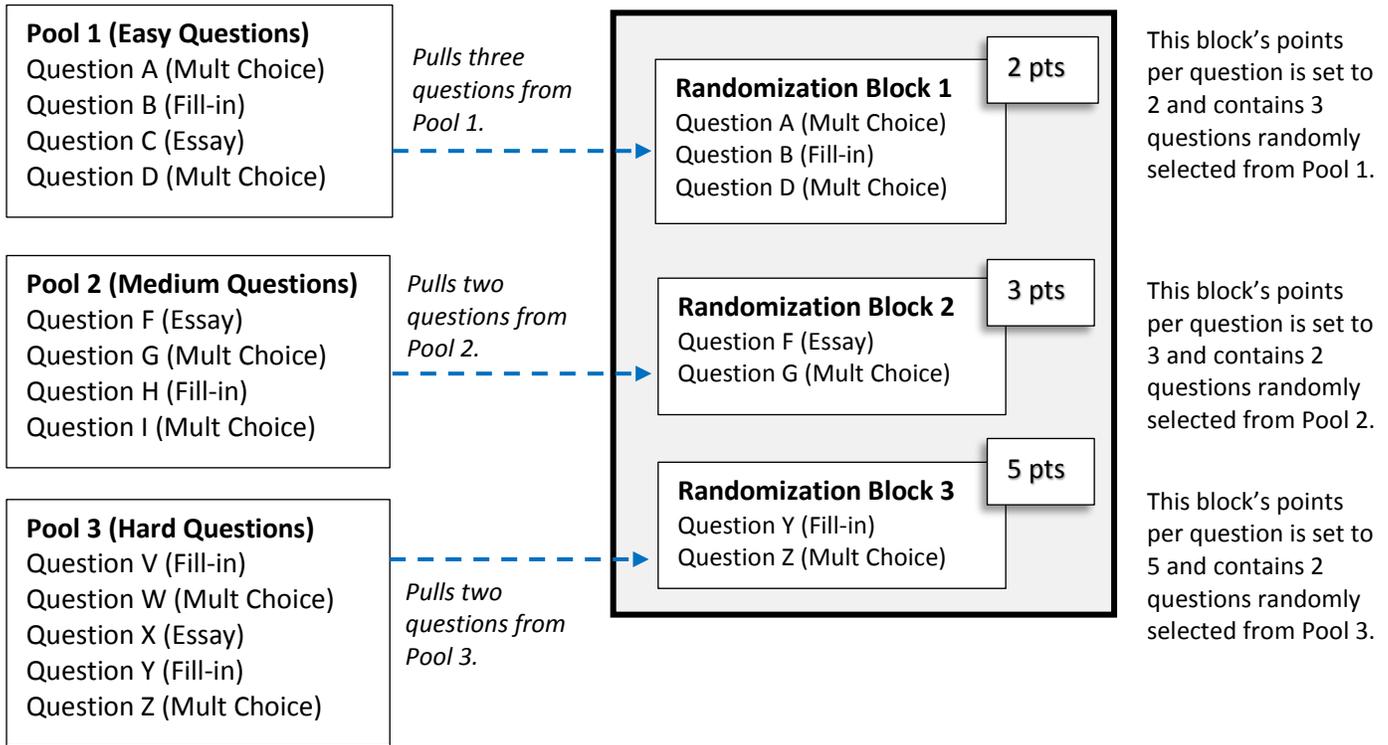
All students taking this test will have to answer three multiple-choice questions (at 2 pts each), two fill-in questions (at 3 points each), and two essay questions (at 5 points each) for a total possible of 22 points.

See Solution 2 on the Next Page >>

**Solution 2: Question Points Possible are Not based on Question Type but on Difficulty of the Question's Topic**

In this scenario, there is no correlation between the question type and the number of points possible for the question. The instructor would like the question's points to be based on the difficulty of the question. For example, multiple-choice question A should be worth 3 points and multiple-choice question B should only be worth 1 point because question A is harder than question B.

In this situation, your only option is to separate questions of different difficulties into different pools. Then, each randomization block should pull from a single pool whose question difficulty matches the points possible of the randomization block. See the illustration below.

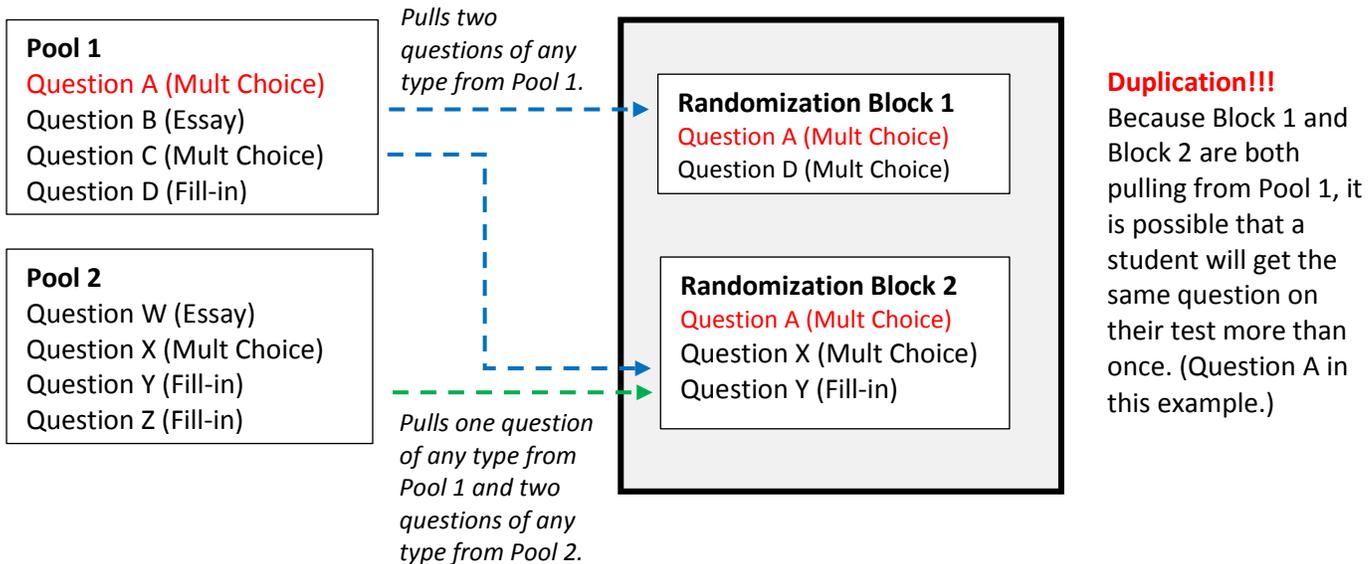


**Notes:**

- The illustration above does not show filtering but filtering is feasible in this scenario.
- The illustration above does not show a randomization block pulling from multiple pools but this is feasible in this scenario if the pools being pulled from contain questions of the same difficulty.

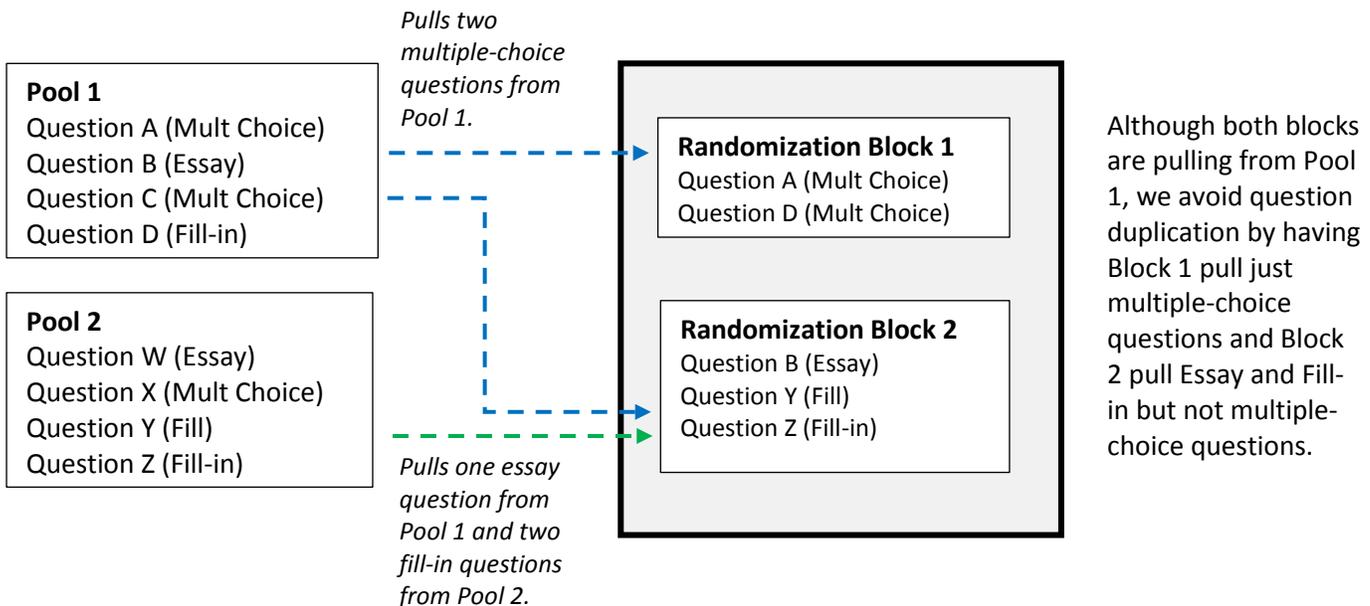
## Avoiding Giving a Student a Test that Contains a Duplicate Question

A single randomization block will never contain duplicate questions within its own block; but a duplicate question can occur on a separate block when two (or more) randomization blocks pull questions from the same pool! An example of this type of undesirable occurrence is shown below.



## Solution to Avoiding Duplication when Separate Blocks Pull from the Same Pool

To avoid question duplication on a test, never have different randomization blocks pull from the same question pool unless the blocks are filtering by different question types. The illustration below shows how two separate blocks can pull questions from the same pool without duplication by filtering by question type.



## **Characteristics / Notes on Randomization**

Much of this was mentioned in the pages above but it is worth repeating:

- You cannot use *Item Analysis* when using randomization.
- Blackboard will not select the same question more than once in the same randomization block.
- Blackboard can select the same question more than once when different randomization blocks pull the same question type from the same pool.
- When pulling multiple question types into a randomization block, Blackboard does not attempt to distribute the different question types evenly.
- All questions in the same block are always worth the same number of points (no exceptions).
- When a randomization block pulls questions from multiple pools, it does not attempt to pull evenly from each pool.
- A test can have questions that are not in a randomization block. All students would get those questions.
- Blackboard does not try to evenly randomize questions that have different point values in the same block.
- Randomization blocks cannot be used with surveys.

For information beyond this guide on randomization, please the link below.

[https://en-us.help.blackboard.com/Learn/Instructor/Tests\\_Pools\\_Surveys/070\\_Reuse\\_Questions/010\\_Random\\_Block](https://en-us.help.blackboard.com/Learn/Instructor/Tests_Pools_Surveys/070_Reuse_Questions/010_Random_Block)

# Steps to Randomizing Test Questions Presented (or Just Question Order)

This section covers:

- Creating Question Pools
- Creating the Test Utilizing Randomization Blocks
- Deploying the Test

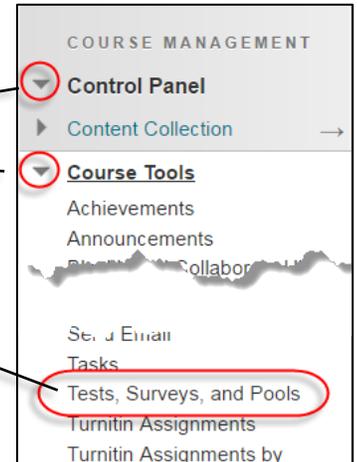
## Part A: Creating Question Pools

As stated previously, tests are randomized by inserting randomization blocks into a test. Randomization blocks in turn contain questions that come from question pools. Therefore, the first step in creating a randomized test is to create one or more question pools. For guidance on correctly setting up pools and randomization blocks to match your test requirements, read the suggestions on the pages that preceded this section.

1. Log into Blackboard (<https://blackboard.usc.edu>).
2. Go into the class you wish to give the test.

3. Expand "Control Panel" then "Course Tools".

4. Click "Tests, Surveys, and Pools".



### Tests, Surveys, and Pools

- Tests
- Surveys
- Pools

5. Click "Pools".

6. Click "Build Pool" then go to the next page.

A screenshot of the Blackboard 'Pools' page. The 'Build Pool' button is circled in red. Below it is a table of existing pools. The 'Final Exam 2017' row is highlighted in yellow, and its dropdown menu is open, showing options like 'Edit', 'Export to Local Computer', and 'Copy'.

| Name ▲                    | Number of Questions |
|---------------------------|---------------------|
| Database Design Questions | 8                   |
| Final Exam 2017 ▼         | 8                   |
| Leadership Exam           | 4                   |
| Normalization             | 4                   |

### Managing Existing Pools

This area lists any existing pools in the course.

- **View Pool** – click it.
- **Edit Pool** – click its down arrow and select "Edit".
- **Export Pool** – click its down arrow and select "Export to Local Computer". You can import the pool into a different course using the "Import Pool" button shown in the image to the left.

7. Type a **Name** for the pool.

8. Type a **Description** of the pool.

9. Click **“Submit”**.

**POOL INFORMATION**

Name: Chapter 8 Questions

Description: This pool contains questions that pertain to Chapter 8 of the "Database Normalization" textbook.

Path: p Words: 14

Instructions: Words: 0

Cancel Submit

**Find Questions**  
This allows you to import questions from other pools or tests within the current course section.

**Upload Questions**  
This allows you to import questions saved to a text file in a very specific format. See this page for more info: [https://help.blackboard.com/Learn/Instructor/Tests\\_Pools\\_Surveys/Reuse\\_Questions/Upload\\_Questions](https://help.blackboard.com/Learn/Instructor/Tests_Pools_Surveys/Reuse_Questions/Upload_Questions)

**Question Settings**  
Control default setting for questions in the pool.

You can bring questions into the pools using several methods; we will show creating a new multiple-choice question.

10. Click **“Create Question”**.  
11. Click **“Multiple Choice”**.

For information on other question types, please visit: [https://help.blackboard.com/Learn/Instructor/Tests\\_Pools\\_Surveys/Question\\_Types](https://help.blackboard.com/Learn/Instructor/Tests_Pools_Surveys/Question_Types)

**Pool Canvas: Chapter 8 Questions**

Create Question Find Questions Upload Questions Question Settings

Calculated Formula  
Calculated Numeric  
Either/Or  
Essay  
File Response  
Fill in Multiple Blanks  
Fill in the Blank  
Hot Spot  
Jumbled Sentence  
Matching  
Multiple Answer  
Multiple Choice  
Opinion Scale/Likert  
Ordering  
Quiz Bowl  
Short Answer  
True/False

## Create/Edit Multiple Choice Question

\* Indicates a required field.

Cancel

Submit and Create Another

Submit

### QUESTION

Question Title

Planet Location to Sun

\* Question Text

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).



What is the name of the furthest known planet for the sun in the solar system?

Path: p

Words:16

12. Type a **Title** for the question.
13. Type the **question**.

### OPTIONS

Answer Numbering

None

Answer Orientation

Vertical

Allow Partial Credit

Show Answers in Random Order

14. Set any desired question options.

15. Set the number of answer choices. (Note the list's minimum is 4 but you can use the "Remove" buttons to have less than 4 possible answers.)

### ANSWERS

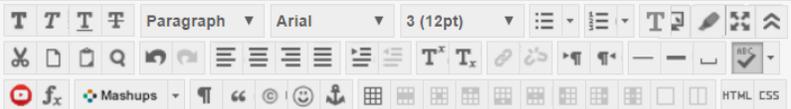
Number of Answers

4

Correct

Answer 1.

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).



Saturn

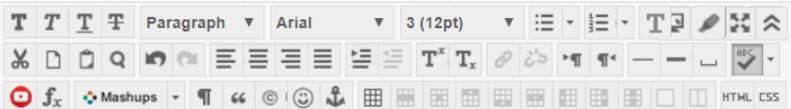
Path: p

Words:0

Remove

Answer 2.

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).



Titan

Path: p

Words:0

Remove

16. Type an answer choice in each box.

17. Designate the correct response by clicking the radio button to its left.

Answer 3. Remove  
For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).

Neptune

Path: p Words: 1

18. If desired, type feedback that students will receive for correct and incorrect responses.

**FEEDBACK**

Correct Response Feedback

Incorrect Response Feedback

19. If desired, add Meta data to the question. Note you cannot use this to filter when pulling questions into randomization blocks but you can use them when finding questions outside of randomization blocks.

**CATEGORIES AND KEYWORDS**

Categories: None

Topics: None

Levels of Difficulty: None

Keywords: None

**INSTRUCTOR NOTES**

Instructor Notes

Character count: 0

20. If desired, types notes to yourself about the question.

21. To create another question of the same type, click **“Submit and Create Another”**. To create a different type of question or stop creating questions, click **“Submit”**.

After clicking *Submit*, you will see your pool's questions. You can use this area to add more questions, delete questions, and edit the questions in the pool.

**Pool Canvas: Chapter 8 Questions**

Create Question Find Questions Upload Questions Question Settings

Description This pool contains questions that pertain to Chapter 8 of the "Database Normalization" textbook.  
Instructions  
Total Questions 5  
Total Points 7  
References Click here to see a list of the tests that reference this pool in a random block.

Search current results: [ ] Go

**Browse Criteria**  
View Reset to Default  
Question types  
Categories  
Topics  
Levels of Difficulty

**Criteria Summary**  
Question types All Pool Questions

Delete Points Update Question Display

| Question Text  | Question Type     | Default Points |
|--|-------------------|----------------|
| <input checked="" type="checkbox"/> Planet Location to Sun: What is the name of the furthest known planet for the sun in the solar system? | Multiple Choice   | 1              |
| <input type="checkbox"/> The emphasis in situational leadership is on:   | Multiple Choice   | 1              |
| <input type="checkbox"/> Task Behavior: Task behavior is:  | Multiple Choice   | 1              |
| <input type="checkbox"/> Completion Questions: In Situational Leadership, the leadership style a person should use with indi...            | Fill in the Blank | 1              |
| <input type="checkbox"/> Completion Questions: Situational Leadership is based on an interplay among three behaviors or acti...            | Essay             | 3              |

Delete Points Update Question Display

Displaying 1 to 5 of 5 items Show All Edit Paging...

← OK

**Edit or Delete a Question**  
To edit or delete a question, hover your mouse on the question to get a down arrow then click the down arrow and select "Edit" or "Delete".

**Affect Multiple Questions**  
To affect multiple questions simultaneously, use the check boxes to delete or change their point values.

**View Question Details (Preview)**  
This button displays the question in an instructor preview format.

22. When satisfied with your pool, click "OK".

23. If your randomization requirements need more question pools, repeat the steps in this section; otherwise, move to Part B on the next page to begin constructing the test.

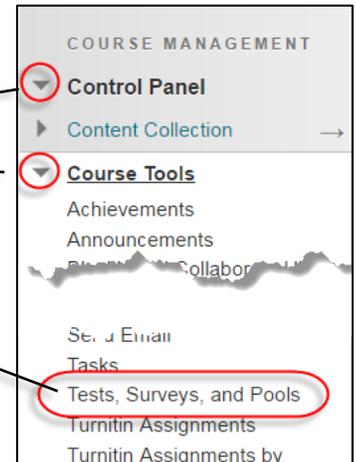
## Part B: Creating the Test: Name and Description

This section covers how to create the test and insert randomization blocks to pull questions randomly from your pool(s).

1. Log into Blackboard (<https://blackboard.usc.edu>).
2. Go into the class you are creating the test in and contains the pool created in Part A.

3. Expand "Control Panel" then "Course Tools".

4. Click "Tests, Surveys, and Pools".



### Tests, Surveys, and Pools

Tests

Surveys

Pools

5. Click "Tests".

6. Click "Build Test".

### Tests

Build Test

Import Test

#### Import Test

This allows you to import a test you have exported as a file from one of your other Blackboard sections.

Name ▲

Deployed

Ch 8 Exam

No

Final Exam

Final Exam

Final Exam

Mars Self T

MaryAnne V

My Test

Content

No

Learning Module

Content

No

Edit

Export to Local Computer

Export to Content Collection

Copy

Delete

#### Edit / Delete / Export a Test

You can produce this menu by hovering your mouse over the test you wish to affect and then clicking the down arrow that appears.

**TEST INFORMATION**

Name: Theme III Quiz

Description: For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).  
 This quiz covers material discussed in class and reading materials between the dates of 1/15/2017 and 2/15/2017.

Instructions: For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).  
 This is an open book, open notes quiz. To ensure the best experience, please read these instructions carefully:

- Use Chrome or Firefox when taking a blackboard test or quiz – never Internet Explorer.
- If possible – use a wired, not a wireless, computer.
- Don't use mobile devices (phone or ipad).
- Never use the browser backspace button.
- Save the answer frequently.

Words: 58

Buttons: Cancel, **Submit**

7. Type a name for the test.
8. Type a description of the test.
9. Type any desired student instructions.
10. Click "Submit".

**Part C: Creating the Test: Randomization Blocks**

As previously mentioned, to randomly select questions for a test, the test must utilize randomization blocks. The blocks will randomly pull a given number of questions from a pool (or pools) into the test. This section covers how to create a randomization block and select questions by type and pool.

**Test Canvas: Theme III Quiz**

Buttons: Create Question, Reuse Question, Upload Questions

Dropdown menu for Reuse Question:

- Create Question Set
- Create Random Block
- Find Questions

1. With the test in *Edit* mode, click "Reuse Questions".
2. Select "Create Random Block".

## Create Random Block

A random block is a group of questions retrieved from a question pool. Questions are randomly retrieved from the selected question pool based on the question type and the number of questions available in the selected pool. [More Help](#)

### Choose Criteria

View  Reset to Default

#### Pool

- Chapter 8 Questions
- Database Design Questions
- Final Exam 2017
- Leadership Exam Ch 8
- Normalization

#### Question types

- All Pool Questions
- Calculated Formula
- Calculated Numeric
- Either/Or
- Essay
- File Response
- Fill in Multiple Blanks
- Fill in the Blank
- Hot Spot
- Jumbled Sentence
- Matching
- Multiple Answer
- Multiple Choice
- Opinion Scale/Likert
- Ordering
- Quiz Bowl
- Short Answer
- True/False

### Selected Criteria

Pool  Chapter 8 Questions  Database Design Questions  Question types  Multiple Choice  True/False

### Preview questions that match selected criteria

Displaying 1 to 4 of 4 items

Question Display

| Question Text   | Question Type   | Source Name               |
|---|-----------------|---------------------------|
| <input type="checkbox"/> Planet Location to Sun: What is the name of the furthest known planet for the sun in the solar system? | Multiple Choice | Chapter 8 Questions       |
| <input type="checkbox"/> Tables Breaking: Breaking a large table into smaller ones is most commonly referred to as norm...      | True/False      | Database Design Questions |
| <input type="checkbox"/> Task Behavior: Task behavior is:   | Multiple Choice | Chapter 8 Questions       |
| <input type="checkbox"/> The emphasis in situational leadership is on:  | Multiple Choice | Chapter 8 Questions       |

Displaying 1 to 4 of 4 items

### Matching Questions / Preview Question

These are the questions that match the criteria you have selected in steps 3 & 4. If you would like to preview a question, click the button indicated.

### Select Pool(s)

3. Select the pool(s) you would like the block to select questions from.

### Select Question Type(s)

4. Select the question types you would like to the block to select from.

### 6. Number of Questions to Display

#### Different Questions:

To give different students different questions, set *Number of Questions to Display* to a number that is less than *Total Questions*. (The larger the difference, the more dissimilar the tests will be.)

#### Same Questions, Different Order:

To give each student the same questions but in a different order, set *Number of Questions to Display* equal to *Total Questions*.

5. Click "Submit".

1 - 3.  Random Block

|                                 |  |                      |                                |
|---------------------------------|--|----------------------|--------------------------------|
| Total Questions:                | 4  | Total Points:        | 6                              |
| Number of Questions to display: | <input type="text" value="3"/>                 | Points per question: | <input type="text" value="2"/> |
| Source Pool:                    | Chapter 8 Questions, Database Design Questions |                      |                                |
| Question Types:                 | Multiple Choice, True/False                    |                      |                                |

[Preview questions that match selected criteria](#)

7. Specify the number of points per question. (All questions on the same randomization block must have the same number of points.)

That completes your first randomization block. If your test design requires more blocks, repeat the steps in Part C. Note that if you have questions that you wish all students to answer, place them directly on the test (i.e. not in a randomization block). An example of a test with two randomization blocks and one non-randomized question is below.

**Test Canvas: Theme III Quiz**

Create Question | Reuse Question | Upload Questions | Question Settings

Description: This quiz covers material discussed in class and reading materials between the dates of 1/15/2017 and 2/15/2017.

Instructions: This is an open book, open notes quiz. To ensure the best experience, please read these instructions carefully:  
• Use Chrome or Firefox when taking a blackboard test or quiz – never Internet Explorer.  
• If possible – use a wired, not a wireless, computer.  
• Don't use mobile devices (phone or ipad).  
• Never use the browser backspace button.  
• Save the answer frequently.

|                 |    |
|-----------------|----|
| Total Questions | 6  |
| Total Points    | 17 |

Select: All | None | Select by Type: - Question Type -

Delete | Points | Update | Hide Question Details

**1 - 3. Random Block** Points per question: 2 Total Points: 6  
Total Questions: 4  
Number of Questions to display: 3  
Source Pool: Chapter 8 Questions, Database Design Questions  
Question Types: Multiple Choice, True/False  
Preview questions that match selected criteria

**4 - 5. Random Block** Points per question: 5 Total Points: 10  
Total Questions: 4  
Number of Questions to display: 2  
Source Pool: Database Design Questions  
Question Types: Essay  
Preview questions that match selected criteria

**6. True/False: 4th Planet: Earth is the 4th closest planet to th...** Points: 1  
Question: Earth is the 4th closest planet to the sun.  
Answer: True (checked), False

Select: All | None | Select by Type: - Question Type -

Delete | Points | Update | Hide Question Details

← OK

This randomization block will pull three questions from two different pools. The questions pulled can be multiple-choice or true/false and will be worth 2 points each.

This randomization block will pull two essay questions from a single pool that contains four questions. Each question is worth 5 points.

This question is not in a randomization blocks so all students will see it. It is worth one point.

8. When done, click "OK".

## **Part D: Deploying the Test**

For students to be able to take your test, you must deploy it. For the steps to deploying tests, please open the guide in the link below and go to page 12.

[https://uscmarshall.service-now.com/kb\\_view\\_customer.do?sysparm\\_article=KB0000167](https://uscmarshall.service-now.com/kb_view_customer.do?sysparm_article=KB0000167)

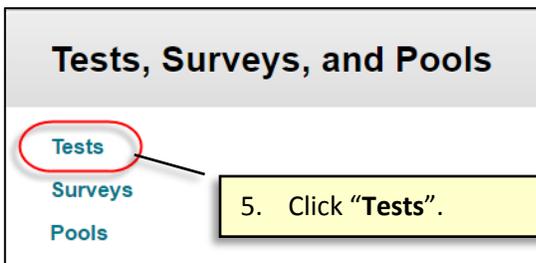
## Randomizing Answer Choice Order

The steps in this section cover how to randomize the order answer choices are presented within a question. Note that this does not randomize the order of questions on a test and that answer choice randomization affects the answer choices of all questions on a test regardless of whether randomization blocks are being used or not.

1. Log into Blackboard (<https://blackboard.usc.edu>).
2. Go into the class you are creating the test in and contains the pool created in Part A.

3. Expand "Control Panel" then "Course Tools".

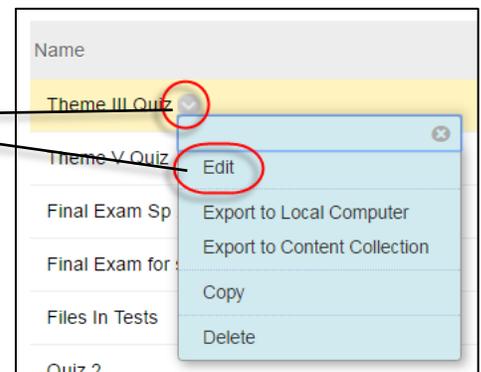
4. Click "Tests, Surveys, and Pools".



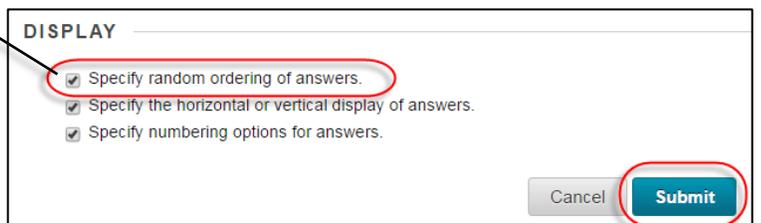
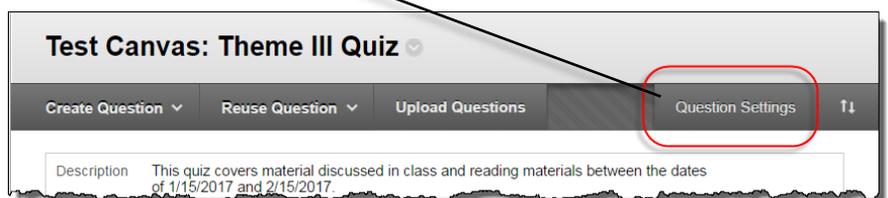
5. Click "Tests".

6. Hover your mouse over the test to be affected then click the down arrow that appears.
7. Click "Edit" from the pop-up menu.

8. Click "Question Settings".



9. Check "Specify random ordering of answers" then click "Submit".



The answer choices of all questions on your test will now be randomized.