Quick guide:
Quiz exam configuration

Quiz Settings – 'Edit Settings' screen

In iLearn these items are accessed via the Quiz "Edit Settings" screens.

Randomise the order of response options

Randomising the response options in a question helps to make direct collusion a bit harder because each student will have a different option 'a'.

Under the quiz 'settings' go to the section for 'Question behaviour'.

Set the option "Shuffle within questions" = Yes.

Using shuffle within questions will randomise the display of question response choices in cases where a question has multiple response possibilities or distractors. For example, in multiple choice and matching questions.

Remember to change options such as "All of the above" to read "All of the other options".

Similarly, if using response options such as "Both a) and b)" such questions will need to be re-designed. This because Moodle will automatically add labels "a." and "b." to the response options *after* the shuffle has occurred. A possible solution is to spell out the combined options by repeating the option text in the response field like so: "Both 'it is blue' and 'it is wet'".

Note: the shuffle can be disabled on a per-question basis. To do so: edit the question and under 'General' settings, untick the "Shuffle the Choices?" checkbox.

Disable the display of marks and feedback

The aim is to replicate a standard test or exam where students do not see marks or feedback until the academic review process has been completed. Removing feedback for an exam can reduce (but not eliminate) the opportunity for those who submitted early from passing on answers to those that are still undertaking their attempt. Remember that the Macquarie University assessment policy states that students must receive feedback from all assessment tasks, and so the feedback should be released in the future.

Delaying feedback until an indeterminate future time requires multiple steps.

Step 1: Under the quiz 'settings', go to the section "Question behaviour".

Set the option "How questions behave" = Deferred feedback.

Step 2: Still under the quiz 'settings' go to the section "Review options" and untick all the boxes under each section.
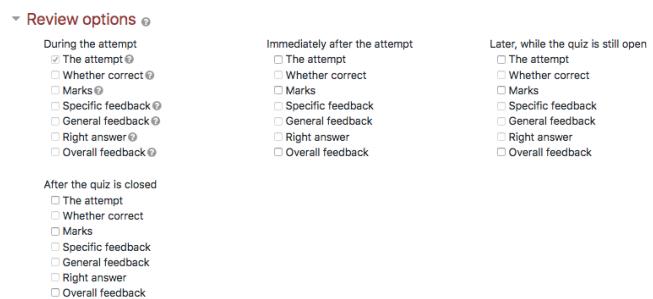
Optional:

> You can use the 'overall feedback' option to provide information to students regarding what happens next. For example: by adding text to the 'overall feedback' field in the quiz settings like so: "Your exam was successfully submitted. Results will be available after the academic review process has been completed."

Step 3: It is necessary to hide the gradebook item(s) from students. Unlike a TurnItIn or assignment activity, you cannot directly hide a quiz within the grade book. To do so you will need to:

1. Create a new category in the grade book.
2. Move the quiz into the category
3. Hide the category via the category 'Edit' context menu.
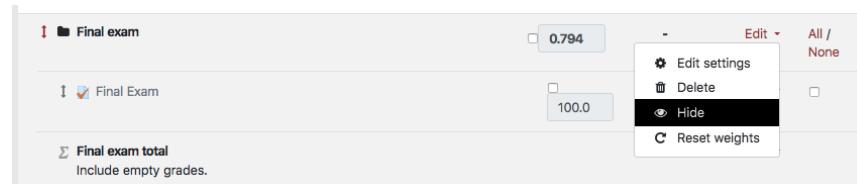
Last, hide the unit total in the grade book. Go to the "Unit total" row in the gradebook and use the 'Edit' context menu to hide the row.

Require password

Under the quiz 'settings' go to the section for "Extra restrictions on attempts" set a password that cannot be guessed.

▼ Extra restrictions on attempts

Require password ⊙ [*Click to enter text ✎*] 👁

Setting a password will prevent unauthorised access and allows for fine grained control over when a cohort of students can start the quiz.

The password will need to be communicated (e.g. via email or by an exam invigilator) to all students just prior to the time a quiz is set to open (but it is also possible that students may forward the password to someone else!).

In the case of online invigilated exams, the password will be released in a manner as to ensure all students begin at the same time. If this is the case be sure the exam invigilator knows the password!

Note: for added security and control, the 'restrict access' rules should also be used to limit access to groups of students or to hide the quiz link from users outside of the exam time or group. See 'controlling access to exam items' for details.

Quiz design – 'Edit Quiz' screen

In iLearn these items are accessed via the Quiz "Edit Quiz" screens.

Use random questions from a category

Using random questions helps make direct collusion harder because students will each see a unique set of questions.

Random questions must be drawn from a collection ("category").

To ensure fairness – You need to create multiple categories to hold each topic and difficulty level to ensure even topic coverage and equally difficult exams for each student. The arrangement of questions in a category can contain:

a) a large collection of different questions on the same topic and of the same difficulty level. OR
b) a set of related variations of a question (note see also the "calculated" question types).

An example exam design using categories is below. The design shows an exam of 8 questions comprising two topics of selected response questions and two integration essays. Each student will receive a different set of questions in the places for questions 1 to 7. Questions within a category must be of the same difficulty and target the same learning outcome to ensure all students receive an equally difficult exam and equal coverage of each topic. The marks for each question within a category are the same. The representation below shows how a student will be allocated questions from the various category pools and progress through the exam. The path will be different for each student and each time the quiz is run.

*Example quiz exam design using random questions drawn from categories*

Category	Category 1 Topic A Easy	Category 2 Topic A Moderate	Category 3 Topic A Hard	Category 4 Topic B Easy	Category 5 Topic B Moderate	Category 6 Topic B Hard	Category 7 Integration	n/a	Total
Start	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Finish
Attempt Quiz	Q1_01	Q2_01	Q3_01	Q4_01	Q5_01	Q6_01	Q7_01	Q8	Submit
	Q1_02	Q2_02	Q3_02	Q4_02	Q5_02	Q6_02	Q7_02		
	Q1_03	Q2_03	Q3_03	Q4_03	Q5_03	Q6_03	Q7_03		
	Q1_04	Q2_04	Q3_04	Q4_04	Q5_04	Q6_04			
	Q1_05		Q3_05	Q4_05		Q6_05			
Pool	Five multiple choice	Four matching	Five mixed types	Five multiple choice	Four matching	Five numerical	Three essay questions	One essay question	
Moodle quiz build	Random question	Random question	Random question	Random question	Random question	Random question	Random question	Essay question	
Marks	1	2	3	1	2	3	4	4	20

Based on K.Shultz (University of Adelaide) [post on LinkedIn](#) 2020.

Not all questions in the quiz need be random. In the example above, the final question is inserted as regular essay question and will be seen by all students.

Setting up random questions

1. **In the question bank**: Create one or more categories under the 'default' category of the quiz.

Questions   Categories   Import   Export

Edit categories ⓘ

Question categories for 'Quiz: Demo randomised exam quiz'

• **Default for Demo randomised exam quiz (0)** 🗑 ⚙   ↓

▾ **Add category**

Parent category   ⓘ   Default for Demo randomised exam quiz ⬍

Name   ❶   Topic A (Easy)

Category info
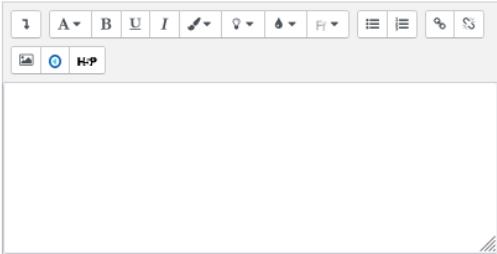
ID number   ⓘ   [   ]

Add category

There are required fields in this form marked ❶ .

2. Place multiple questions into a category in the question bank. New questions can be created in-situ or questions can be moved from other categories.

Questions   Categories   Import   Export

Question bank

Select a category: Topic A (Easy) (5)   ⬍

☐ Show question text in the question list

Search options ▸

Create a new question ...

	T▲ Question	Actions	Created by	Last modified by
	Question name / ID number		First name / Surname / Date	First name / Surname / Date
☐ ⊞	MCQ v1	Edit ▾	Mathew Hillier 24 August 2021, 4:34 PM	Mathew Hillier 24 August 2021, 4:34 PM
☐ ⊞	MCQ v2	Edit ▾	Mathew Hillier 24 August 2021, 4:35 PM	Mathew Hillier 24 August 2021, 4:35 PM
☐ ⊞	MCQ v3	Edit ▾	Mathew Hillier 24 August 2021, 4:43 PM	Mathew Hillier 24 August 2021, 4:43 PM
☐ ⊞	MCQ v4	Edit ▾	Mathew Hillier 24 August 2021, 4:44 PM	Mathew Hillier 24 August 2021, 4:44 PM
☐ ⊞	MCQ v5	Edit ▾	Mathew Hillier 24 August 2021, 4:45 PM	Mathew Hillier 24 August 2021, 4:45 PM

With selected:

Delete   Move to >>   Topic A (Easy) (5)   ⬍
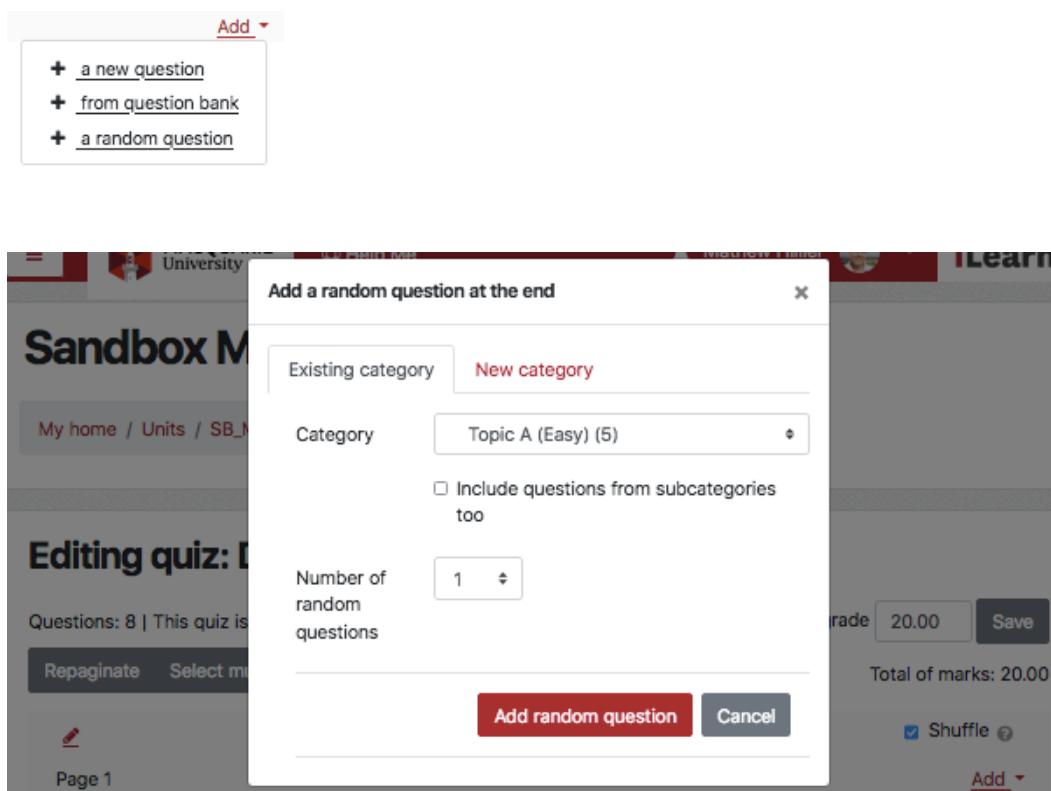
The completed exam design as shown on the 'editing quiz' screen is below.
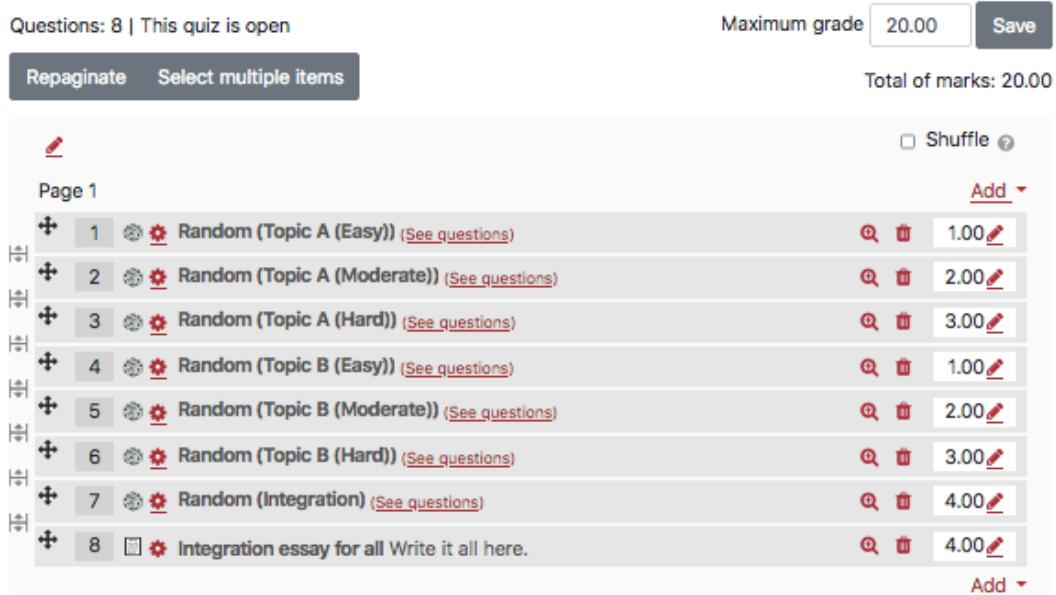
Note in the example above, the display sequence of questions will be the same for each student. Each student will see a random question from the 'Topic A Easy' category first and the integration essay question last.

Shuffle question order in the quiz

By shuffling the order of questions in the quiz, each student will see the questions displayed in a different sequence.

On the 'editing quiz' screen, tick the 'Shuffle' checkbox.

Editing quiz: Demo randomised exam quiz ⓘ

Questions: 8 | This quiz is open

Maximum grade 20.00 **Save**

Repaginate   Select multiple items

Total of marks: 20.00

☑ Shuffle ⓘ

Page 1   Add ▾

1   Random (Topic A (Easy)) (See questions)   ⊕ 🗑 1.00 ✏

2   Random (Topic A (Moderate)) (See questions)   ⊕ 🗑 2.00 ✏

By default this will shuffle all questions in the quiz, including across pages.

To preserve the order of some questions while shuffling others, the quiz can be split into 'sections' with groups of questions placed into each.

Shuffle some questions using a section

The quiz will need multiple sections to be added via the 'editing quiz' screen.

Editing quiz: Demo randomised exam quiz ⓘ

Questions: 8 | This quiz is open

Maximum grade 20.00 **Save**

Repaginate   Select multiple items

Total of marks: 20.00

☑ Shuffle ⓘ

Section One ✏   ☑ Shuffle ⓘ

3   Random (Topic A (Hard)) (See questions)   ⊕ 🗑 3.00 ✏

4   Random (Topic B (Easy)) (See questions)   ⊕ 🗑 1.00 ✏

3   Random (Topic A (Hard)) (See questions)   ⊕ 🗑 3.00 ✏

Page 2   Add ▾

4   Random (Topic B (Easy)) (See questions)   ⊕ 🗑 1.00 ✏

3. **Inset a new section**. Go to a middle page (e.g. page 2) then to the right of the screen to find the 'Add' link. On the drop menu choose "a new section heading".
   (note: the 'add' links for the first and last pages do not have this option).

3   Random (Topic A (Hard)) (See questions)   ⊕ 🗑 3.00 ✏

Page 2   Add ▾

4   Random (Topic B (Easy)) (See questions)

5   Random (Topic B (Moderate)) (See questions)

6   Random (Topic B (Hard)) (See questions)

7   Random (Integration) (See questions)

➕ a new question
➕ from question bank
➕ a random question
➕ a new section heading

Section Two ✏ 🗑   ☐ Shuffle

5. **Arrange the questions**. Move each to the desired section and page. Multiple sections and multiple page breaks within a section can be used.

The questions within a given section can now be shuffled:

6. Tick the 'Shuffle' checkbox to the right of the relevant section heading.

This means that one section may contain shuffled questions while another section can contain questions in a fixed sequence.

Note it is not possible to shuffle the sections, only the questions within a section.

In the example below, the questions will be shuffled within Section One and questions will be shuffled within Section Two, while in Section Three the questions will appear in the sequence as specified. Shuffled questions will remain within each section. As such when a student views section one, some will receive an easy question first, while others will receive a hard question first.

Note the use of the shuffle setting also works when standard questions and multiple pages are used as in the example below. Questions are shuffled across pages within a section. In the next example below, the questions in Section One and Section Three will be shuffled, while in Section Two the questions will appear in the sequence as specified.

Further information

Resources for preparing online exams [link to Teche post with collection of links]

Question types – including calculated questions https://docs.moodle.org/39/en/Questions

Random questions https://docs.moodle.org/39/en/Random_question_type