

About Tools for Creating MOOC Assignments

There are a variety of assignments in online courses. For creating MOOC content, various tools for helping to create assignments are available. Read the following pages (numbers in brackets) to learn specific instances.

Common problem types

- Multiple Choice (p.2)
- Checkboxes (p.3)
- Dropdown
- Numerical Input (p.4)
- Text Input
- Problem with Adaptive Hint

Advanced problem types

- Custom Javascript Display and Grading
- Write-Your-Own-Grader Problem
- Circuit Schematic Builder Problem
- Drag and Drop (p.5)
- Image Mapped Input
- Math Expression Input
- Problem Written in LaTeX
- Molecular Editor (p.6)
- Peer Assessment (p.7)
- Problem with Adaptive Hint

(Based on the following webpage: http://edx.readthedocs.io/projects/edx-partner-course-staff/en/latest/exercises_tools/index.html)

Common Problem Types 1: Multiple Choice

Multiple Choice:

Learners select one answer from a set of possible answers, which are visible directly below the questions. At a minimum, this includes a question or prompt and several answer options. By adding hints, feedback, or both, you can give learners guidance and help when they work on a problem.

Week 3 > Ethnomethodology 1 > Problems (1-3)

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Problems (1-3)
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Problem 1
1.0 point possible (graded)

Who started and developed ethnomethodology at University of California, Los Angeles?

☐ Harold Garfinkel

☐ William Foote Whyte

☐ Max Weber

☐ Yutaka Yamauchi

Submit

You have used 0 of 2 attempts

 Save

(Excerpt from KyotoUx 002x: Culture of Services: New Perspective on Customer Relations)

Common Problem Types 2: Checkboxes

Checkboxes:

Learners select (☒) one or more option(s) from a list of possible answers. To answer the problem correctly, a learner must select all of the options that are correct answers, and the options that are incorrect.

Week 2 > Lecture 2: Writing and Synthesizing DNA - 53 minutes > Exercise 2 - DNA Base Pairing

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Exercise 2 - DNA Base Pairing

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Exercise 2
0 points possible (ungraded)

DNA BASE PAIRING

Check all that apply.

- ☐ A-C are linked together by 3 hydrogen bonds.
- ☐ C-G are linked together by 2 hydrogen bonds.
- ☐ A-T are linked together by 2 hydrogen bonds.
- ☐ C-T are linked together by 1 hydrogen bond.
- ☐ A-T are linked together by 3 hydrogen bonds.
- ☐ C-G are linked together by 3 hydrogen bonds.

[Submit](#)

(Excerpt from KyotoUx 001x: Chemistry of Life)

Common Problem Types 3: Numerical Input

Numerical Input:

In this problem type, learners enter numbers or relatively simple mathematical expressions as answers. In the following case, learners enter a prime number in each box.

Week 1 > Introduction to Prime Numbers > Problem (7-8)

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Problem (7-8)

[Bookmark this page](#) [VIEW UNIT IN STUDIO](#)

Problem 7

1.0 point possible (graded)

The twin prime pairs between 50 and 100 are (A, B) and (C, D). Write a prime number in each of the blanks in ascending order.

A :

B :

C :

(Excerpt from KyotoUx 004x:
Fun with Prime Numbers:
Mysterious World of Mathematics)

Advanced Problem Types 1: Drag and Drop problem

Drag and Drop problem:

In this problem type, learners respond to a question by dragging text or images to a specific location on a background image.

Week 7 > Problems 7-8 > Problem 8 - Peptide Synthesis Reaction

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Problem 8 - Peptide Synthesis Reaction

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Problem 8

5.0 points possible (graded)

PEPTIDE SYNTHESIS REACTION

Drag each chemical structure to their corresponding name to complete the formation of an amide bond.

(R₁ corresponds to the first amino acid side chain while R₂ corresponds to the second amino acid side chain)

Reaction Scheme:

Amine + **Carboxylic Acid** + **Condensation Reagent (DIPCDI)** $\xrightarrow{\text{Base (DIPEA)}}$ **Amide** + **Urea**

Draggable Items:

 R₁-NH₂   R₂-COOH 

Submit You have used 0 of 2 attempts

**After answering the problem, click "Save" first then click "Final Check" to have your score computerized.*

(Excerpt from KyotoUx 001x:
Chemistry of Life)

Advanced Problem Types 2: Molecular Editor (Tool for drawing chemical structures)

Molecular Editor:

This tool allows learners to draw molecules that follow the rules for covalent bond formation and formal charge, even if the molecules are chemically impossible, are unstable, or do not exist in living systems. It warns learners if they try to submit a structure that is chemically impossible.

(Excerpt from KyotoUx 001x: Chemistry of Life)

HOMEWORK 2: IDEA FOR A RESEARCH PROJECT

0 point possible (ungraded)

Based on the content of the lectures, come up with your own idea about new ways to use amino acids, proteins, small molecules or fluorescence and illustrate your idea with diagrams as follows:

STEP 1: Use **Molecular Editor** to draw a chemical structure (optional)

STEP 2: Use the provided drawing tool to illustrate your idea (mandatory)

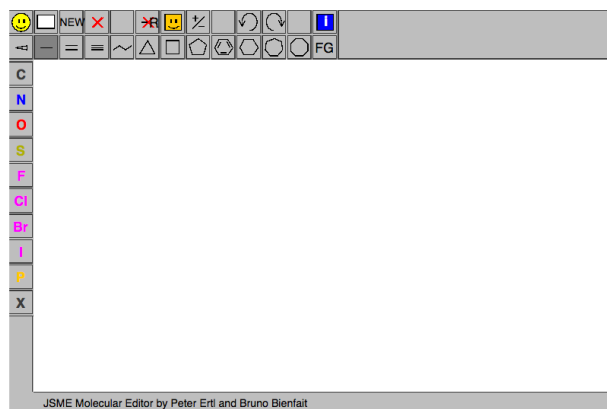
STEP 3: Save your homework image as a JPEG or PNG file

STEP 4: Submit your image file (next page)

STEP 1: DRAWING OF A CHEMICAL STRUCTURE (Optional)

If needed for your idea, draw a chemical structure in the window below using **Molecular Editor** (optional). You can find a tutorial about how to draw and edit molecules [here](#).

Molecular Editor



Transfer from editor

Advanced Problem Types 3: Peer Assessment

Peer Assessment:

Learners submit essay responses and then go through a series of assessment steps to complete the assignment. In the peer assessment step (as shown in the figure below), learners review the responses of other learners in the course. Learners can also provide text feedback, or comments, on each response.

2

Assess Peers

✓ COMPLETE (3)

Read and assess the following response from one of your peers.

The question for this section

Question: Take a position on the issue of physical or mental enhancement with use of medicine, and make a case for or against it. You are expected to support your claim with convincing arguments and also consider possible counterarguments to your viewpoint. Your Response should contain approximately 500 words.

NOTE: There will be a great diversity of opinions about enhancement depending on cultural, ethnic, religious, and philosophical points of view. Please respect that diversity and your peers' opinions.

Your peer's response to the question above

My view is that a specific group of people can be used without a strong stimulus of physical or mental enhancement with use of medicine. For example, science and technology workers. As professor Kodama said, "If the scientific research to provide such items, you can accelerate the achievement of excellent results, and for the benefit of the whole society. Some people may be in doubt, why scientists can get such privileges and other people can not. My judgment is based on the size of the contribution to society and the whole human being." The science and technology workers will play a powerful role in promoting the development of human beings. The object of its service is the present and future of the whole mankind. Athletes and other people who are interested in sports that do not have a special meaning and nature, they want to achieve more breakthroughs and achievements is to break the shackles of the existing body, but does not have a more profound meaning. This willingness to make them do not have the right of physical or mental enhancement with use of medicine.

The above statement is my idea. Of course, these ideas need to be improved. Welcome everyone and I do a lot of useful discussion.

Other Learner's Response (SAMPLE)

▼ (A) Does the author make his/her claim clear enough?

☐ Poor

1 POINTS

☐ Good

3 POINTS

☐ excellent

5 POINTS

(Excerpt from KyotoUx 006x:
Ethics in Life Sciences and Healthcare:
Exploring Bioethics through Manga
(2016, 1st Round))