WeBWorK for Faculty

Below are video guides produced in 2018. A PDF guide to using WeBWorK is available from github.com. This PDF guide was updated in 2015, and may again be updated someday. With both the videos and the PDF guide, the intended audience is Portland Community College faculty, and there may be language/instructions that are specific to PCC. However WeBWorK-using faculty at other institutions may find these materials useful too.

Contents

To Request a course shell for WeBWorK

Send an email to one of the addresses below, depending on your campus. (If PCC supports you, but you are not associated with one of PCC's campuses, you may write to alex.jordan@pcc.edu.)

Use your pcc.edu email address, since these are PCC-managed Google groups, and they may reject mail from non-pcc.edu addresses.

- sywebwork-group@pcc.edu
- cawebwork-group@pcc.edu
- rcwebwork-group@pcc.edu
- sewebwork-group@pcc.edu

...with the following information. (Note that your G number is no longer needed.)

- What **term** is the shell for?
  (If not associated to any term, say so. But such situations should be rare.)
- What **course number**?
  (e.g. MTH 60. If not associated to a specific course number, say so. But such situations should be rare.) You may want to note that we have default homework sets available for MTH 20, 60, 65, 95, 111, and 243. For other courses, we may have something useful as well.
- If you have multiple sections of one course, do you want separate WeBWorK shells?
  And if you want separate shells, please **list all the CRNs**. (If not, no need to look up the CRN.)
- If you want to manage all the sections through a single WeBWorK shell, then please **explicitly say so**.
  When you manage more than one course through a single shell, you can still manage separate due dates, etc. However you need to learn a little more about the Instructor Tools. Do not manage multiple sections through a single WeBWorK shell if you are using Desire2Learn with multiple D2L shells and you want WeBWorK integration.
- Is there an existing course that you would like copied? Like from the previous term? Or last year? Or someone else's course and you have their permission? Please note: copying does *not* copy the active, assigned homework sets. Nor does it copy any student data. All that it copies is files that are inside the course's templates/ folder. This will include the file that has your Course Info panel information. But if you really want *homework sets* to be copied, you have two options:
  1. In the older course, you need to use the Hmwk Sets Editor to "export" the problem sets. This makes .def files that you can see in the course's File Manager. Then when the course is copied, these files will be copied, and you may use the Hmwk Sets Editor in the new course to "import" the problem sets. It is your responsibility to do this *before* you request a course to be copied, or you need to go on to item 2 here.
  2. We can copy the course even if you did not export the problem sets into .def files. Then you can enter the old course, make the .def files, download them to your computer, and upload them into the new course. For the downloading step, it is easiest to ctrl-click each of the .def files to highlight them all, and then click to "Make Archive". This creates a single .tgz compressed file that you can download all at once. When you upload the .tgz file into the new course, it will unpack automatically into the various .def files. Then you may use the Hmwk Sets Editor in the new course to "import" the problem sets.
- If you have no prior course to copy, you just want the "default" course shell. It helps to explicitly say so.

Basic Course Setup

- Logging in for the first time
- Brief navigation orientation
- Changing your password
- Editing the Course Information panel
- Course Configuration options

Video

(Click to watch in YouTube for full screen.)

Manually Adding Course Roster

- Import a PCC course roster
- Add individual students one at a time
- Remove/drop a student

Video

(Click to watch in YouTube for full screen.)

Using D2L and Single Sign-On

- Creating an External Learning Tools Link to WeBWorK
- Student self-enrollment
- Disabling direct log-in to WeBWorK
- Creating a navbar button to WeBWorK

Video

(Click to watch in YouTube for full screen.)

Activating ("Importing") Homework Sets

- Import the Orientation problem set
- Import a collection of default homework sets

Video

(Click to watch in YouTube for full screen.)

Editing a Homework Set

- View all the problems in an active set
- Deleting a problem from a set
- Marking a problem correct for all students
- Finding problems in the library to add to a set and adding them
- Rearranging the order of problems in a set
- Setting relative weight and max attempts for each question in a set
- Editing a set description
- Editing set header information

Video

(Click to watch in YouTube for full screen.)

Create a Homework Set from Scratch

- Create a new empty homework set

Video

(Click to watch in YouTube for full screen.)

- Search Open Problem Library for problems to add
- Search PCC libraries for problems to add
- Set due dates
- Set description and set header
- Assign to students

Importing a Quiz from the PCC Library

- Import a quiz from a curated set definition file in the PCC library
- Discuss the meanings of quiz settings
- Discuss a problem intended to be submitted through D2L outside of WeBWorK
- View the quiz from the student perspective

Video

(Click to watch in YouTube for full screen.)

Quiz Assembly

- Create a quiz using the Library Browser
- Discuss the meanings of quiz settings

Video

Making a Quiz

(This is an older video. The two quiz-related videos above may be more helpful. There is one more quiz-related video coming that will make this one completely redundant.)

- Selecting problems
- Configuring quiz administration options
- Grading
- Option to proctor

Video

(Click to watch in YouTube for full screen.)

One D2L Course with Two WeBWorK Courses

- In one D2L course, use set-by-set grade passback with one WeBWorK course containing your quizzes and exams
- A separate WeBWorK course can contain homework sets and take less overhead

Video

(Click to watch in YouTube for full screen.)

Palette Tool Options

- The MathView math editor
- The WIRIS math editor
- User Settings to disable math editors

Video

(Click to watch in YouTube for full screen.)

Managing Student Email

- Email Instructor button
- Adding a Gmail filter for WeBWorK help emails
- Process for responding to a student email
- Seeing a student's past answers

Video

(Click to watch in YouTube for full screen.)

Assessment Tools

- Scoring tools
- Statistics on problem sets
- Student progress on problem sets

Video

(Click to watch in YouTube for full screen.)

Editing Individual Student Data

- Changing dates for a problem set for a particular student (or subset of students)
- For one student (or subset of students), for one problem, changing the
    - random seed,
    - score,
    - weight,
    - max attempts,
    - Show Me Another threshhold,
    - problem source file

Video

(Click to watch in YouTube for full screen.)

Gamification: Math Achievements

- Activating Achievements
- Points and Badges
- Achievement Items

Video

(Click to watch in YouTube for full screen.)

Show Me Another

Video not yet produced

Commercial online homework platforms often have a feature where a student can get a step by step solution for the problem they are working on, at the cost of having the problem that they were assigned re-randomized. WeBWorK's Show Me Another Feature is like this, except that the version of the problem that was originally assigned to the student remains their assigned version, and they can see solutions to the newly seeded problem. It is worth noting that if WeBWorK is unable to generate a new version of the problem that is different from the version that is actually assigned, then it will tell the student this, and that this feature is unavailable for this problem.

There are several checks in place to allow you to customize how this feature is used. First of all, in Course Configuration (Optional Modules tab), you decide what elements of the newly seeded problem the student will have access to. There are four options, any subset of which can be enabled.

1. Solutions: if the newly seeded version has a walk-through solution, then the student will be able to see it.
2. Answers: Let students see what answer was expected for the newly seeded version.
3. Hints: some WeBWorK problems are coded with hints that are revealed depending on a global setting by the instructor and how many attempts the student has used. (Very few problems used at PCC are coded with hints.) With this checked, students have access to the newly seeded version's hints regardless of other settings.
4. Check answers: this gives the student the ability to enter an answer for the newly seeded version and have WeBWorK check if it is correct or not.

The other thing to set in Course Configuration is the number of times a student may use Show Me Another for each problem. Maybe you wouldn't care to allow your student to use this button over and

over again on any one problem forever. For example, setting it to 3 means that a student only gets 3 uses of SMA for each problem. Setting this to 0 means they can't use it at all. If you set this to -1, then there is no limit.

Lastly, you very well might like this feature to be enabled for some problems, but not all. For this reason, in the Set Details page for a problem set, you can set the threshold of attempts that a student must use before the button becomes available to them. For example, it is set to 2, then they must attempt the problem twice before the button is available. If you want the button to be immediately available, set the threshold to 0. If you want the button to never never be available for that problem, then convention is to use -1. (If you have a multiple choice question, where new random versions simply permute the order the options are presented, then you may not want to allow students to use SMA on that problem.)

Sometimes when you import a problem set, these per-problem SMA values will come along with the problem set you imported. It just depends on where the problem set definition file came from. If that happens, and you are not happy with the values that were imported, you could either change all the numbers manually, or mass edit the set definition file(s) and re-import the problem sets.

Reduced Scoring Period

Video not yet produced

You can set up a problem set so that it has a date by which students can receive full credit, and a second date where each submission is only worth some percentage of full credit. For example, suppose a set has three exercises. A student correctly answers #1 for full credit on time, and answers #2 half correct at the same time. At this point there scores are (100, 50, 0). Then a day late, they answer #2 fully correct and answer #3 half correct. Then if you have set the reduced scoring weight to 70%, the student will have scores (100, 70, 35).

Here is some important vocabulary for using this feature. From the student's perspective, there is a "due date" (when the get full credit) and an "accepted late for reduced credit date". From the teacher's perspective, there is a "reduced credit date" (when students start getting reduced credit) and a "close date".

To use this feature:

1. You must enable reduced scoring in Course Configuration (Optional Modules tab).
2. Also in Course Configuration, set the weight you wish to use.
3. Now when you visit the Hmwk Sets Editor, an active set has *four* dates where it otherwise would have three. The reduced credit date has been added as an additional column. Edit these dates as you like. Note that you will get an error message if your dates do not make sense. I.e. "open date" < "reduced credit date" <= "close date" <= "answer date".
4. Also for each problem set, there is a checkbox to mark for whether or not reduced credit applies to that set.

Sometimes when you import a problem set, the reduced scoring dates and flag will come along with the problem set you imported. It just depends on where the problem set definition file came from. If that happens, and you are not happy with the values that were imported, you could either change all the dates and flags manually, or mass edit the set definition file(s) and re-import the problem sets.

Conditional Release

Video not yet produced

You can make it possible to conditionally release homework assignments. For example, this can be used to make it so that Assignment #2 is not available until a student has say a 90% on Assignment #1, etc.

After enabling this in the Course Configuration (Optional Modules tab), then visit the set details page for Assignment #2. You will be able to choose the set that it depends on, and a score that students must have on that set before Assignment #2 is available. You will have to type the name of the set. You need to know that if your set name appears to have space characters, they are actually underscores. So for example, type "Assignment_#2", not "Assignment #2".

Periodic Re-randomization

Video not yet produced

(Click to watch in YouTube for full screen.)

Moving Content from one Course to Another

Video not yet produced

(Click to watch in YouTube for full screen.)

Using D2L and Simple Grade Pass-back

Video not yet produced

(Click to watch in YouTube for full screen.)

Video not yet produced

(Click to watch in YouTube for full screen.)

Using D2L and Set-by-Set Grade Pass-back

Reporting Bugs

Video not yet produced

(Click to watch in YouTube for full screen.)