U C Riverside

Department of Mathematics

WeBWorK Instructor's Guide

I. Background information

- WeBWorK is an open source online homework program supported by the Mathematical Association of America (MAA) and is available to the university and our students free-of-charge. The program has been installed and is being hosted by Computing and Communications (CnC).
- WeBWorK is not textbook based. Its library contains almost 30,000 homework problems contributed by authors from many universities across the country.
- Supported courses include college algebra, discrete mathematics, probability and statistics, single and multivariable calculus, differential equations, linear algebra and complex analysis.
- Since WeBWorK is not textbook based, you may not be able to find the exact problems as the ones in your textbook. Also, the library contains a large number of problems so browsing through them could be very time consuming. For example, a search on the chain rule returns 370 problems.
- Therefore, to make the program easier to use, model courses with homework problems similar to those in your textbook have been created for Math 8B and Math 9ABC. You have the option to:
 - o Use the model as it is;
 - o Modify the model in any way you like; or
 - o Create your own assignments.
- This Instructor's Guide is intended to walk you through the model and to make
 the model as easy to use as possible. You can do as little or as much as you want.
 This guide will provide the basic operations needed to create, assign and score
 homework sets quickly to minimize the amount of time that you have to spend on
 the program.

II. Before Classes Begin

- The WeBWorK administrator will setup your courses and import your roster from iLearn before the start of each quarter. As soon as your classes are setup on iLearn, please add the WeBWorK administrator as a TA. His iLearn user name is rlam004.
- Once your WeBWorK course has been setup, you will receive an email notification from the administrator. At this time, you can remove him from your iLearn course.

III. Login Information

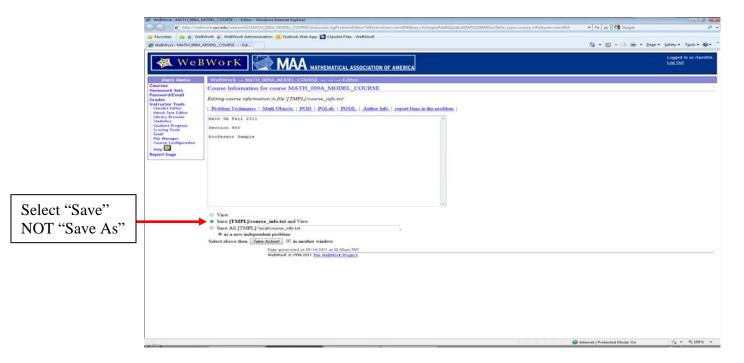
• Instructors, TA's, and students will access WeBWorK here:

http://webwork.ucr.edu/webwork2

- Instructors will receive their login information from the WeBWorK administrator after their courses have been setup.
- For TA's and students, their login name is their NetID (iLearn user name) and the default password is their student ID number (SID) which is the 9-digit number beginning with 860 or 861.
- After logging in, you can change your password by clicking on the password/email link.

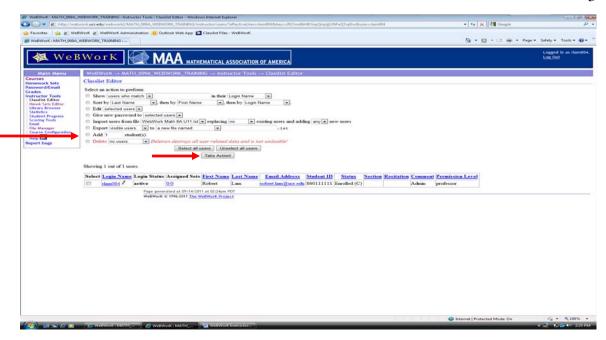
IV. Editing Course Information

• After you log in, you will see the description of your course on the front page. You can edit the info by clicking on the "edit" link. After editing, save the file under "course_info.txt". Do NOT use the "save as" button.

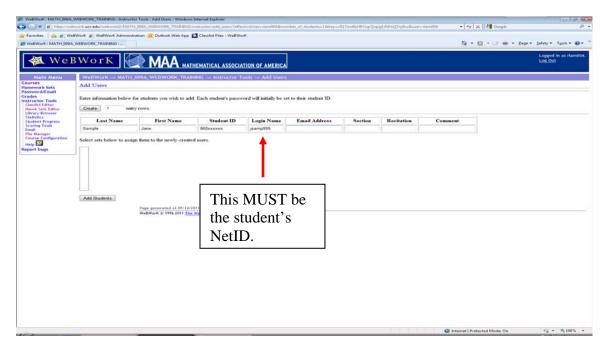


V. Adding Students to Your WeBWorK Course

- If any new students enroll in your class after the original roster has been imported, you'll need to add them manually.
- Click on "Classlist Editor".
- Select "Add Students" and fill in the number of students you want to add.
- Click "Take Action!"

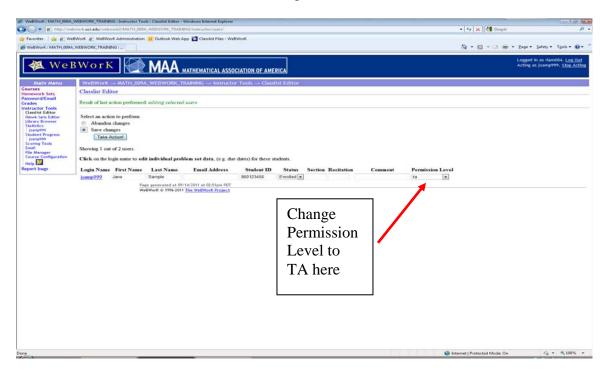


- The student ID is the 9-digit number beginning with 860 or 861. *By default, this is your student's initial password.* Once the students have logged in they can change their passwords.
- You can find your student's (or TA's) SID from the roster on iLearn.
- Since WeBWorK is hosted by Computing and Communications (CnC) on a UCR server, they require that the students' user names to be their NetIDs (iLearn user names). This is to verify that all users are authorized users. Therefore, *under the 'Login Name' column, you must enter the student's NetID*.
- Leave the last 4 boxes blank.
- Click "Add Student".
- Alternatively, you can request the WeBWorK administrator to add those students for you.



VI. Adding Teaching Assistants to Your WeBWorK Course

- Add your TA as a student by following the above procedures.
- Go to "Classlist Editor".
- Select your TA's name.
- Select the bubble "Edit Selected User".
- Click "Take Action".
- On the next screen change the "permission level" to "TA".
- Click on the bubble "Save Changes" then "Take Action!"



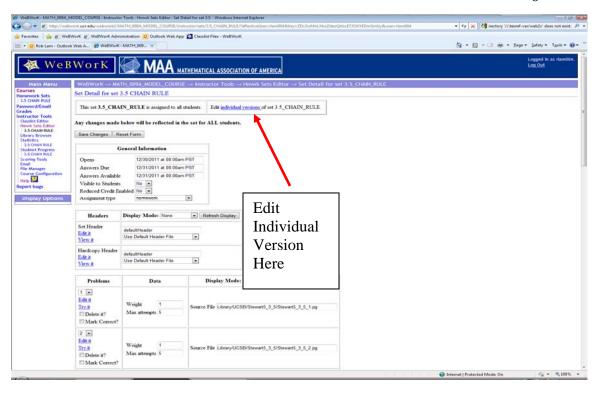
VII. To Reset Passwords

- Should your students or TA's forget their passwords, you can give them a new password by going to the "Classlist Editor" and selecting the "Give New Passwords To" option.
- If you forget your password, you'll have to contact the WeBWorK administrator to have him reset it for you.

VIII. Homework Management

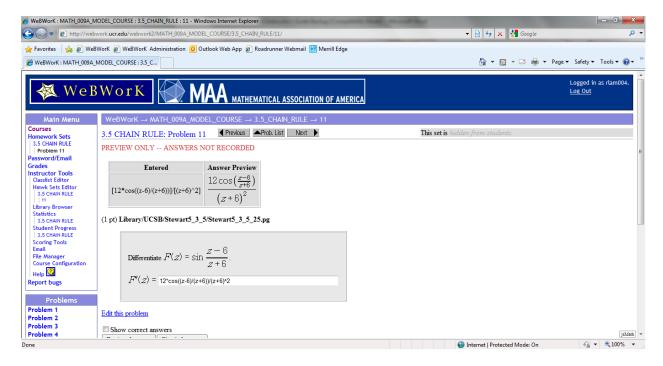
- All of your homework managements are done in the "Homework Sets Editor". You will click on the link "Hmwk Sets Editor" under the main menu.
- <u>To view the problems in a homework set</u>, click on the link under "Edit Problems", then on the problem number click "Try it". From there you can navigate to the next or previous problems. Alternatively, if you have already assigned the homework set to yourself, you can view it by clicking on the "Homework Sets"

- link on the top of the main menu. (You can also view it from the library. More on this later.)
- To set the open date, due date, and answer date of a homework set, click on the pencil icon under that set and then change the dates on the next screen. Check the "visible" box if you want to allow your students to see the assignment.
- <u>To assign a homework set to the class</u>, click on the link under the column "Edit Assigned Users". On the next screen, click on the button "Assign to All Current Users". <u>To assign a homework set to specific students</u>, select the students' name then click save.
- <u>Do NOT uncheck students and do NOT use the "unassign" button</u> unless you are absolutely sure you know what you are doing. Once you unassign a homework set from a student, all information is lost and there's no way to undo this.
- <u>To create a new homework set</u>, use the option "Create a new set named" option and type the name in the box. Please note that spaces are NOT allowed and you will need to use underscores for spaces, for example, "The_Chain_Rule". Then save it as "an empty set".
- <u>To modify a homework set</u>, under the "Edit Problems" column click on the homework set that you want to edit. On the next screen you can change the settings of the assignment.
 - <u>Weight</u>: By default, on WeBWorK the weight is one point for each problem regardless of the number of parts it contains. For example, if you think that a 3-part problem should be worth 3 points, you can change it here. The student's final score is expressed as a percentage of his total score over the total number of points possible. You have the option to increase the weight of a problem that you think is difficult or challenging.
 - o <u>Maximum number of attempts</u>: By default, WeBWorK gives a student unlimited number of attempts to solve a homework problem. On our models, the default has been changed to 5 attempts. On some problems, the default has been set to one attempt (for example some Math 9C convergent/divergent problems). You can change the maximum number of attempts per problem here. If you want to give unlimited tries, type in the word *unlimited*.
 - o <u>To delete a problem</u> before the homework set is open, check the problem(s) to be deleted and check the box "Force problems to be numbered consecutively from one" at the bottom of the page. Do NOT check this box if you are deleting a problem after a homework set has been opened. On the bottom of the page, click "Save changes".
 - o <u>To change an assignment for a specific student (such as granting an extension</u> for reduced credit), click on the link under "Edit Problems" for that particular assignment, then click "Edit Individual Versions" on the top of the page, then change the information such as due date or weights on the next screen.



IX. Entering Answers on Homework Problems

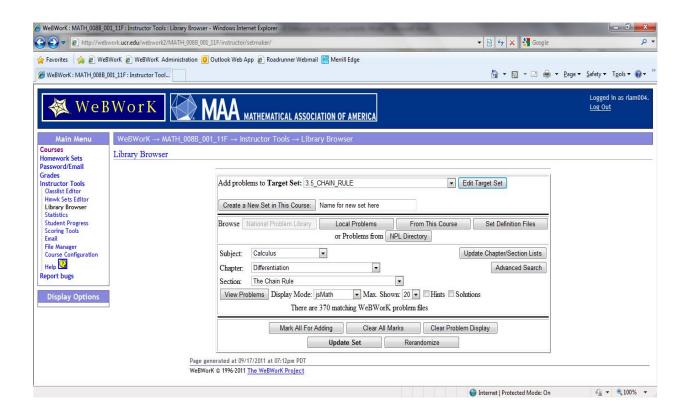
- Under each assignment there is a link "Here's the list of functions and symbols that WeBWorK understands."
- Clicking on that link will take students to a page that lists all the functions and symbols. For example, the square root of 2 should be entered as "sqrt (2)".
- To avoid syntax errors students should always click "Preview Answers" to verify what they have entered before submitting the answer.



- You are encouraged to assign "Introduction to WeBWorK" as soon as classes begin to get students to familiarize themselves with the program.
- WeBWorK does not allow partial answer submissions. If a problem has 3 parts, all 3 parts have to submitted at the same time. If the student submits only part (a), it will count as one attempt. However, if the answer for part (a) is correct, it will be saved and the student does not have to answer part (a) again.
- WeBWorK is case sensitive. For example, "pi" needs to be entered in lower case while the "+ C" in integration needs to be in upper case.

X. The Library Browser

- Click the "Library Browser" link under the Main Menu. By default, you'll be taken to the National Problem Library (NPL).
- Under the library's menu, you will select a subject, chapter and section. Since WeBWorK is not textbook based, the so called chapters and sections are very generic and is usually not tied to the textbook that we use.
- For example, you can select calculus/differentiation/the chain rule.
- Click the "View Problem" button to begin.
- You can also view your own homework sets by clicking the "From This Course" button and then selecting a set.
- You can browse the directories from other schools who have made their directories public by clicking "NPL Directory".
- You can also select the "Advanced Search" button for more search options, such as to search by keywords.



- On the top of the page you will select the homework set that you want the problems to be added to.
- To add a problem, check the box "Add this problem to the target set on the next update" then click "Update Set" on the bottom of the page.

XI. Scoring the Homework Sets

- Typically you will score all your homework sets once at the end of the quarter.
- You can score each set as they come due but there is really no need to unless you want a backup file (which is a good idea.) You can click on the "Student Progress" link under the main menu to see how your students are doing.
- Each time you score a set, a new file is generated. (It does not overwrite your old file).
- To score homework sets, click on "Scoring Tools" under the main menu. Select the sets that you want to score by clicking on the sets while holding down the "CLTR" button.
- Then click "Score selected sets and save to..." You can change the file name if you wish.
- After the file has been generated, click on the link to open it, then save it as an Excel worksheet or any other formats that you like on your computer.
- <u>It is very important that you save the file on your computer</u>, as all courses will be archived at the end of each quarter.
- If you need to access that file at a later time on your WeBWorK course (before it is archived), go to "File Manager", select your course on the drop-down menu on the top, highlight the "scoring/" directory, and click view.
- Then highlight the scoring file that you need and click download to save it to your computer.

