



# Blackboard Integration Guide

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# Configuring Blackboard to Integrate with LabSim

*This guide was made for an LMS Administrator or individual experienced at configuring their LMS systems and settings.*

To help you better integrate LabSim with your Blackboard LMS, we have produced the following guide as a courtesy. We walk you through the steps of how to link to a course, a specific resource within a course, how to send a score back from a LabSim resource to Blackboard's gradebook and how to create a class in LabSim.

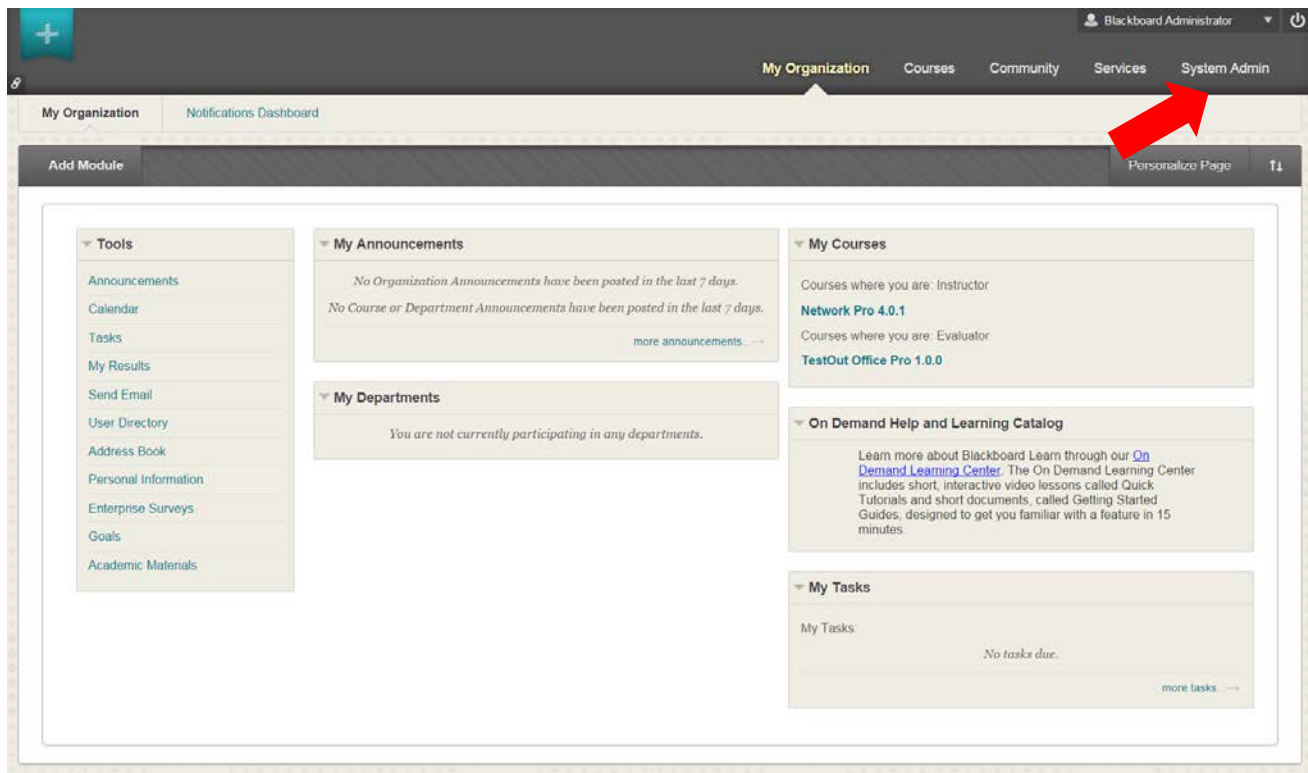
At the end of the guide, we will explain some of the common errors you may run into when trying to connect to LabSim through Blackboard. Please be advised, **we are not Blackboard (or LMS) experts.**

We are unable to provide support or set up your Blackboard LMS. TestOut Technical Support is willing to let you know if there are any issues on our end with the LMS Integration, but do not currently have the resources to set up a Blackboard account.

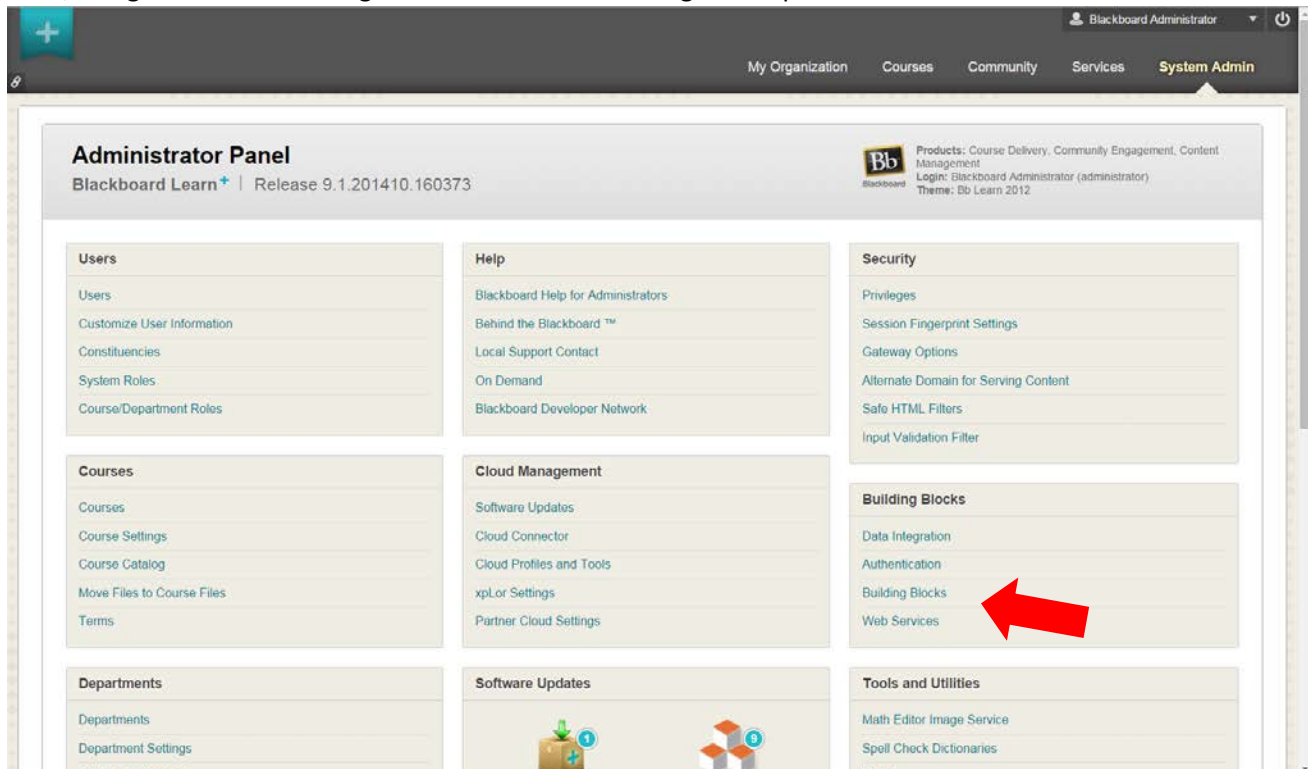
As always, feel free to contact us with any issues. Have a great school year!

# Setting Up the LTI Tool Provider in Blackboard

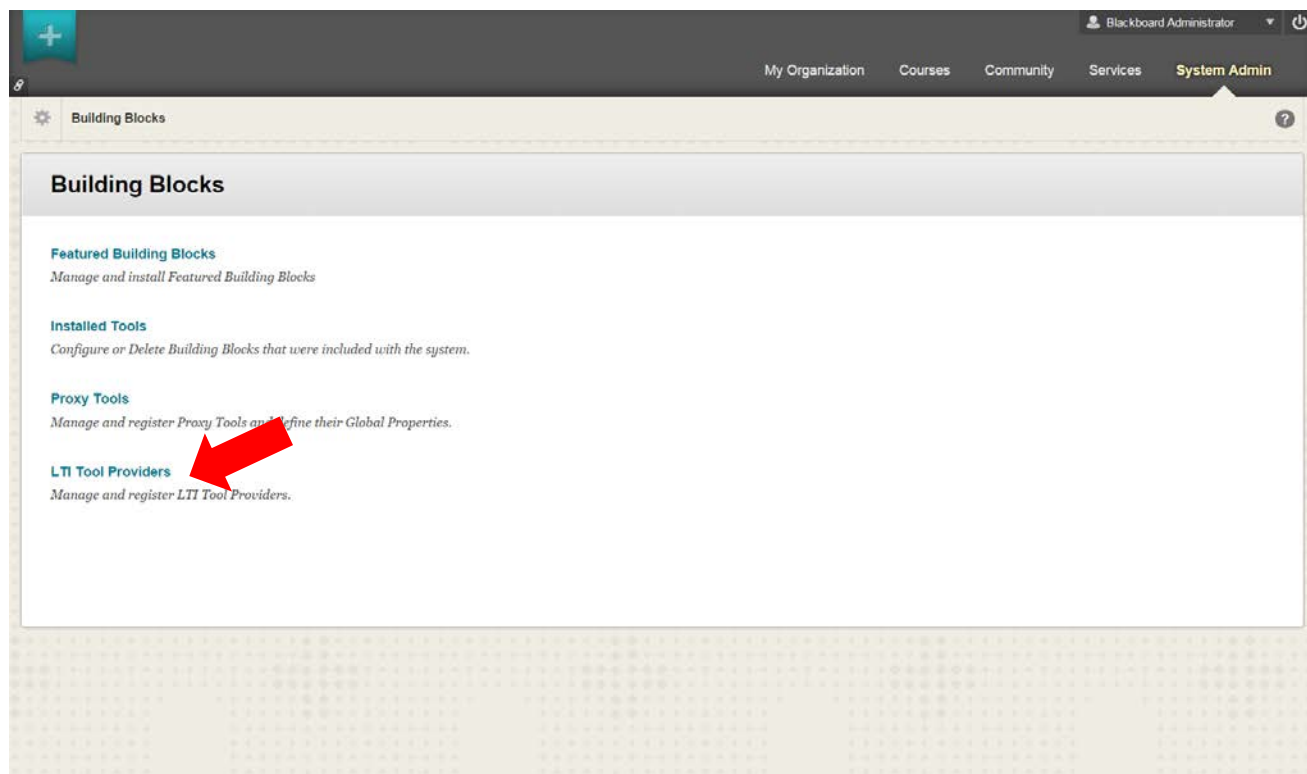
After logging into your Blackboard account, navigate to the “System Admin” page.



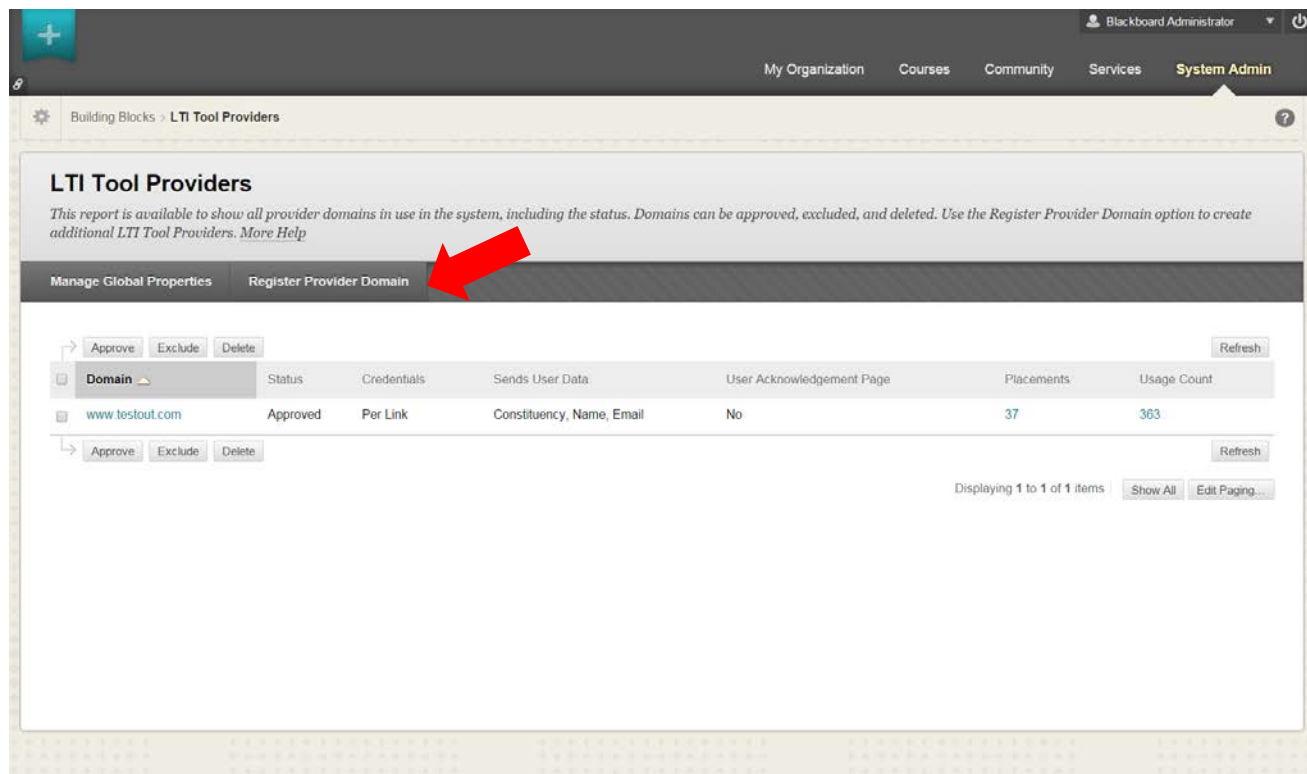
Next, navigate to the “Building Blocks” link in the Building Blocks panel.



Then press “LTI Tool Providers.”



Click on “Register Provider Domain.”



On the “Register Provider Domain” page, put *www.testout.com* in the “Provider Domain” field. Additionally set the “Provider Domain Status” to “Approved.”

Blackboard Administrator

My Organization Courses Community Services **System Admin**

Building Blocks > LTI Tool Providers > **Register Provider Domain**

### Register Provider Domain

Create a new registered provider domain, configure, and set policies. The provider domain, and secondary hostnames must be unique.

\* Indicates a required field.

**PROVIDER DOMAIN STATUS**

Set the status of the provider domain. You can also provide a list of additional hostnames to share this configuration if needed.

\* Provider Domain

Provider Domain Status

☒ Approved ☐ Excluded

Secondary Hostnames

Enter one hostname per line.

**DEFAULT CONFIGURATION**

LTI Tool Providers can request configuration per link, or can provide key and shared secret information for site-wide configuration.

Default Configuration ☒ Set separately for each link

Cancel Submit

Scroll down to the “Default Configuration” section. Set the “Default Configuration” to “Set globally.”

Insert your “Consumer Key” and “Consumer Secret” received from your TestOut Account Executive in the “Tool Provider Key” and “Tool Provider Secret” boxes.

Additionally, adding the below parameters will make integration with LabSim simpler for your school.

- `oauth_lenient=true` (allows you to add a description when creating web links to a LabSim course)
- `labsim_class_id=@context_title` (ensures that your students end up in the correct LabSim class)

**DEFAULT CONFIGURATION**

*LTI Tool Provider can request configuration per link, or can provide key and shared secret information for site-wide configuration.*

Default Configuration: ☐ Set separately for each link ☒ Set globally

Tool Provider Key:

Tool Provider Secret:

Tool Provider Custom Parameters:   
oauth\_lenient=true  
labsim\_class\_id=@context\_title

*Enter any custom parameters required by the tool provider. Parameters must each be on their own line and be entered in "name=value" format.*

**ORGANIZATION POLICIES**

*Choose whether you want to override the organization policies for this specific tool provider domain.*

Send User Data:   
☐ Never   
☐ Send user data only over SSL   
☒ Send user data over any connection

User Fields to Send:   
☒ Constituency in Course   
☒ Name   
☒ Email Address

Show User Acknowledgment Message: ☐ Yes ☒ No

Message Text:   
Paragraph Arial 12pt

Send user data 

- ☐ Never
- ☐ Send user data only over SSL
- ☒ Send user data over any connection

User Fields to Send

- ☒ Constituency in Course
- ☒ Name
- ☒ Email Address

Show User Acknowledgment Message ☐ Yes ☒ No

[illegible]



Back on the LTI Tool Providers page, check to make sure that the domain is set up correctly, the status is set to “Approved” and that the User Data is sending the appropriate information.

Blackboard Administrator

My OrganizationCoursesCommunityServicesSystem Admin

Building Blocks > LTI Tool Providers

Success: Provider Domain Edited: www.testout.com.

### LTI Tool Providers

This report is available to show all provider-domains in use in the system, including the status. Domains can be approved, excluded, and deleted. Use the Register Provider Domain option to create additional LTI Tool Providers. [More Help](#)

Manage Global PropertiesRegister Provider Domain

ApproveExcludeDelete

Domain

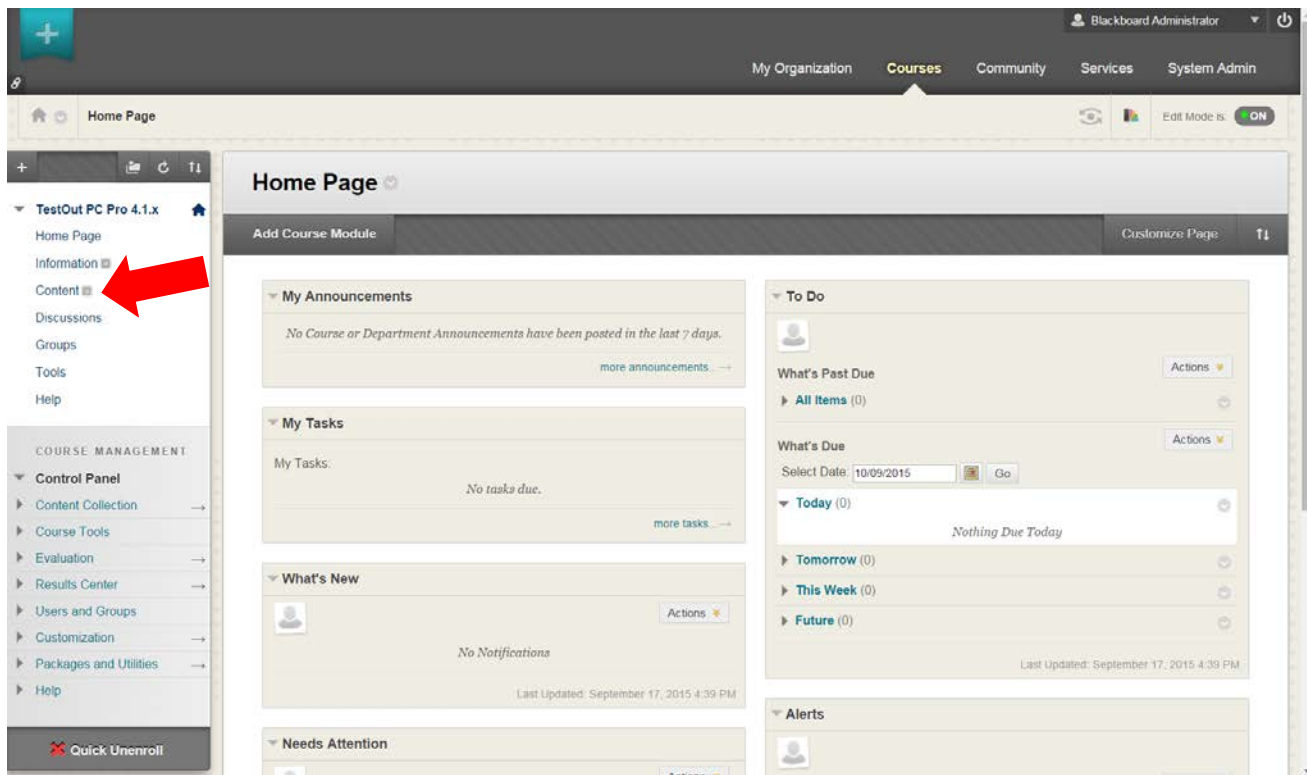
	Status	Credentials	Sends User Data	User Acknowledgement Page	Placements	Usage Count
www.testout.com	Approved	Site	Constituency, Name, Email	No	37	363

ApproveExcludeDelete

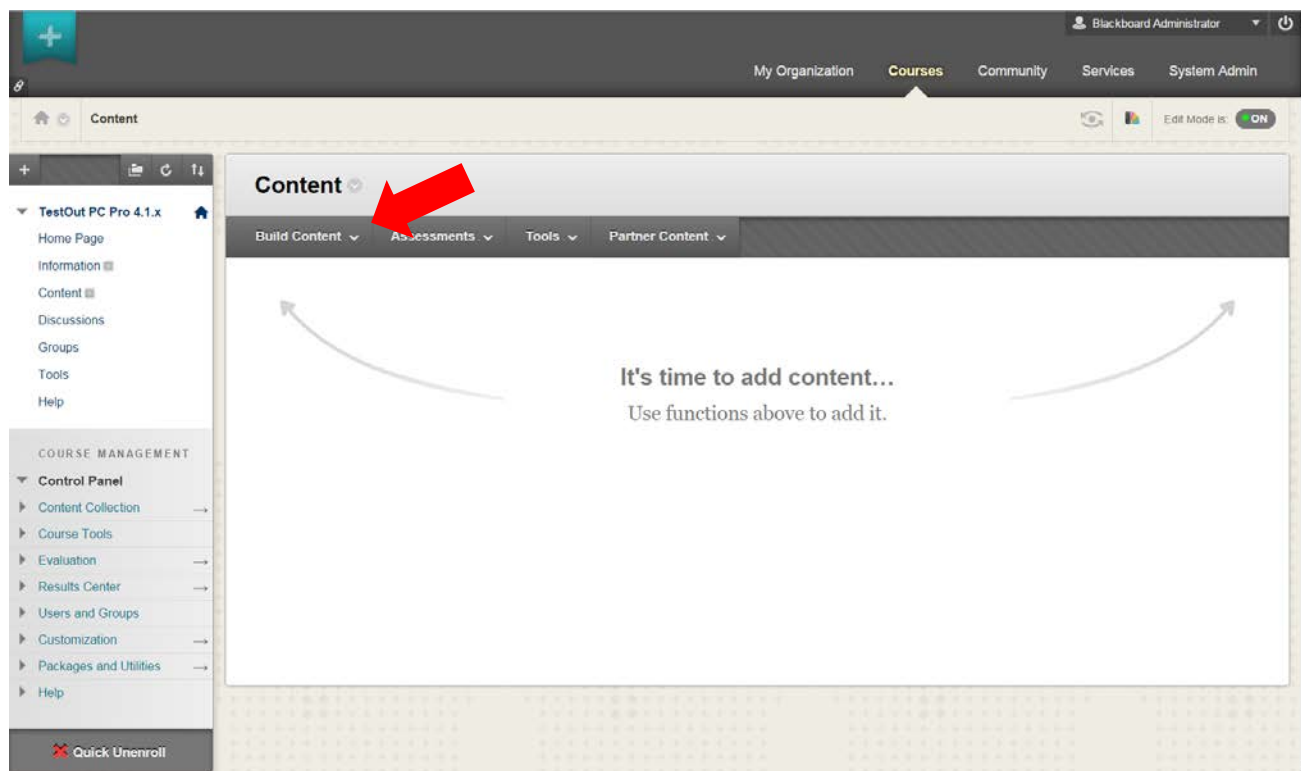
Displaying 1 to 1 of 1 itemsShow AllEdit Paging

# Setting up Links to your LabSim Course

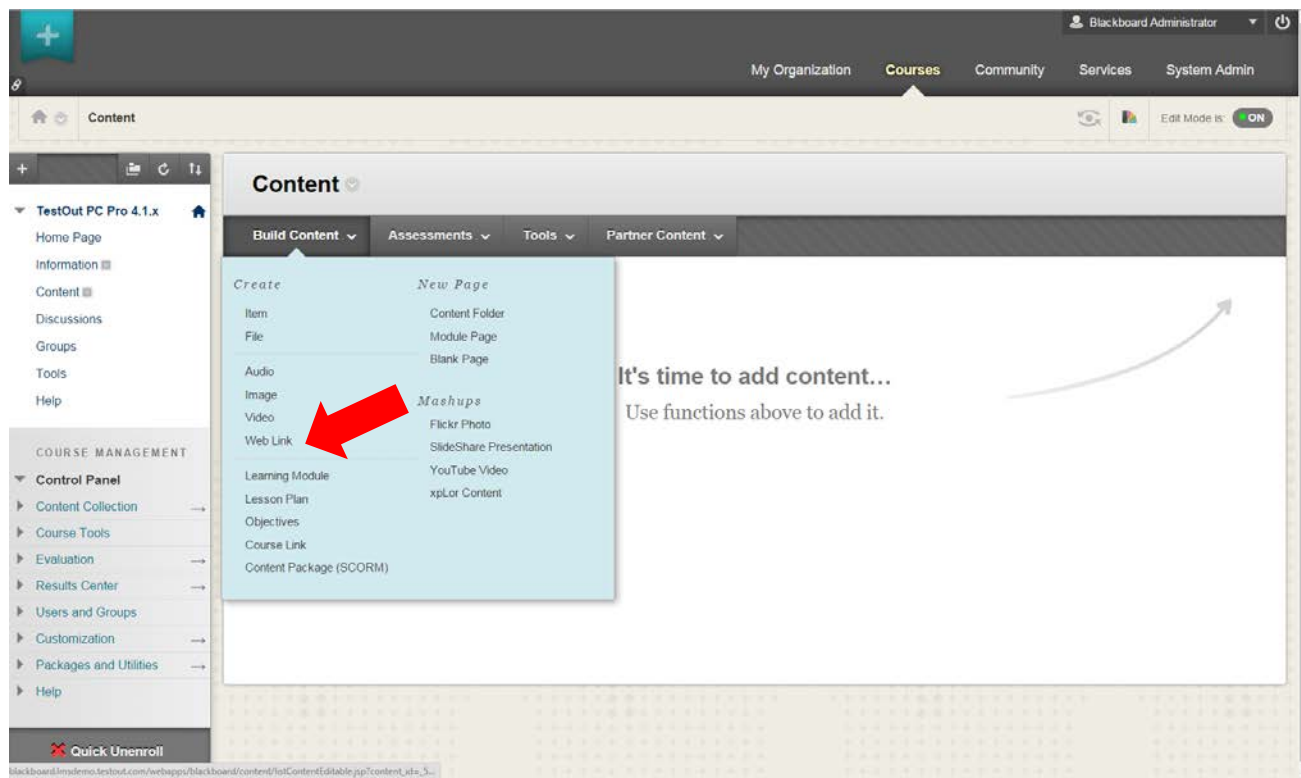
Inside of your course, navigate to the “Content” page.



Click on “Build Content.”



In “Build Content” drop down, click on “Web Link.”



On the “Create Web Link,” type the name you wish to give to your assignment in the “Name” field.

In the URL field, you will build onto the base URL by adding custom parameters.

Start with the base URL <http://www.testout.com/orbispartner/basiclti.aspx>

**\*IMPORTANT:** If while setting up the testout.com LTI Tool Provider you chose to send data only over SSL you **must** use <https://www.testout.com/orbispartner/basiclti.aspx> (This is important because if these do not match, the link to LabSim **will not** work).

At this point, you can customize the URL to do a variety of things. Simply add ? to the end of the base URL and add the following custom parameters, separated by &

- **Go to your specific LabSim Course:** Add *labsim\_course\_id=* followed by the ISBN of your course (example: 978-1-935080-43-5). **This is required to connect to LabSim.**
- **Go to a Specific Resource:** To go to a specific resource inside of the course you have specified, add *labsim\_section\_id=* followed by the section (example: 9.5.3).
  - If you wish to link to a resource without a numbered title, you may put the name of the resource, using “%20” in place of spaces (for example: Course%20Overview)
  - To link to a Custom Exam or a TestOut Pro Certification, please refer to [subsequent sections](#).
- **Request that Student’s Submit a Score Back:** If you wish to have students report back a grade from a resource, add *labsim\_allow\_outcomes=true* to the URL. This is unnecessary if you have had TestOut set this globally or if you have previously set this globally in Blackboard System Admin.

In the end, your URL should look similar to the URL below:

[http://www.testout.com/orbispartner/basiclti.aspx?labsim\\_course\\_id=978-1-935080-43-5&labsim\\_section\\_id=9.5.3&labsim\\_allow\\_outcomes=true](http://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=9.5.3&labsim_allow_outcomes=true)

After inputting the URL, check the box labeled “This link is to a Tool Provider.” If this box/field does not appear, please refer to the [Getting the “This is a Tool Provider” checkbox while creating a Web Link](#).

If you wish to create or add students to a LabSim class, refer to [Creating a LabSim Class using LMS Integration](#).

The screenshot shows the Blackboard 'Create Web Link' interface. The 'WEB LINK INFORMATION' section contains the following details:

Field	Value
Name	1.1.1 PC Pro and A+ Certification
URL	http://www.testout.com/orbispartner/basiclti.aspx?

The checkbox 'This link is to a Tool Provider' is checked. Below it, the 'ENABLE EVALUATION' section has 'Yes' selected. The 'DESCRIPTION' section is empty.

If you would like to receive scores for the resource you are creating the link for, select Yes on the “Enable Evaluation” and set up the points and other options.

**Create Web Link**

A Web Link is a shortcut to a Web resource. Add a Web Link to a Content Area to provide a quick access point to relevant materials. [More Help](#)

*\* Indicates a required field.*

**WEB LINK INFORMATION**

Name: 1.1.1 PC Pro and A+ Certification

URL: <http://www.testout.com/orbispartner/basiciti.aspx?>  
For example, <http://www.myschool.edu/>

☒ This link is to a Tool Provider. [What's a Tool Provider?](#)

Enable Evaluation: ☒ Yes ☐ No

To set additional evaluation options, use the Column settings in the Results Center

Points Possible: 1

Visible to Learners: ☒ Yes ☐ No

Due Date:

Enter dates as mm/dd/yyyy. Time may be entered in any increment.

**DESCRIPTION**

**ATTACHMENTS**

If you select a file you do not want, click **Do Not Attach** to remove the attachment from the content item. The file itself is not deleted.

Attach File:

**WEB LINK OPTIONS**

Open in New Window: ☒ Yes ☐ No

**STANDARD OPTIONS**

Permit Users to View this Content: ☒ Yes ☐ No

Track Number of Views: ☐ Yes ☒ No

Select Date and Time: ☐ Display After

Scroll down to the Description section. If you have added the `oauth_lenient=true` parameter to the LTI Tool provider, you may add a description here if desired (Blackboard causes an error without this parameter).

**DESCRIPTION**

Text

Path: p Words: 0

**ATTACHMENTS**

If you select a file you do not want, click **Do Not Attach** to remove the attachment from the content item. The file itself is not deleted.

Attach File:

**WEB LINK OPTIONS**

Open in New Window: ☒ Yes ☐ No

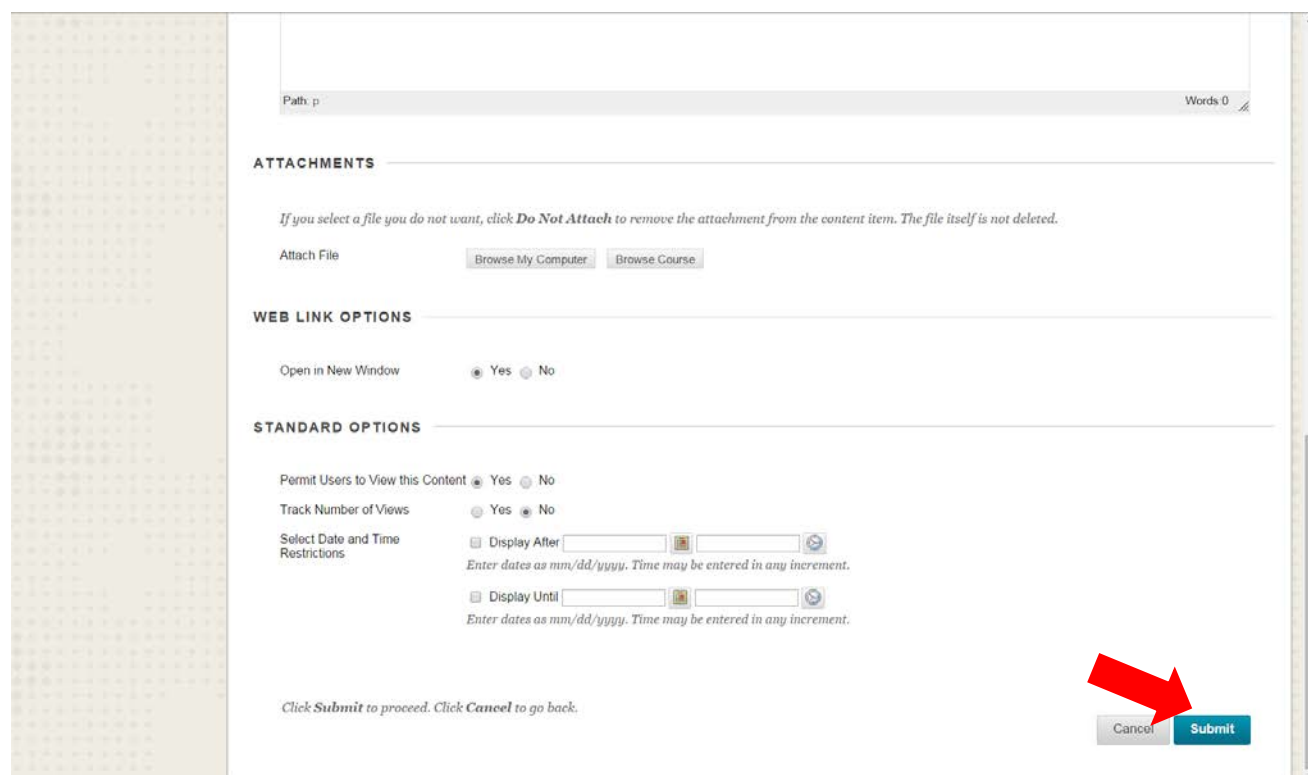
**STANDARD OPTIONS**

Permit Users to View this Content: ☒ Yes ☐ No

Track Number of Views: ☐ Yes ☒ No

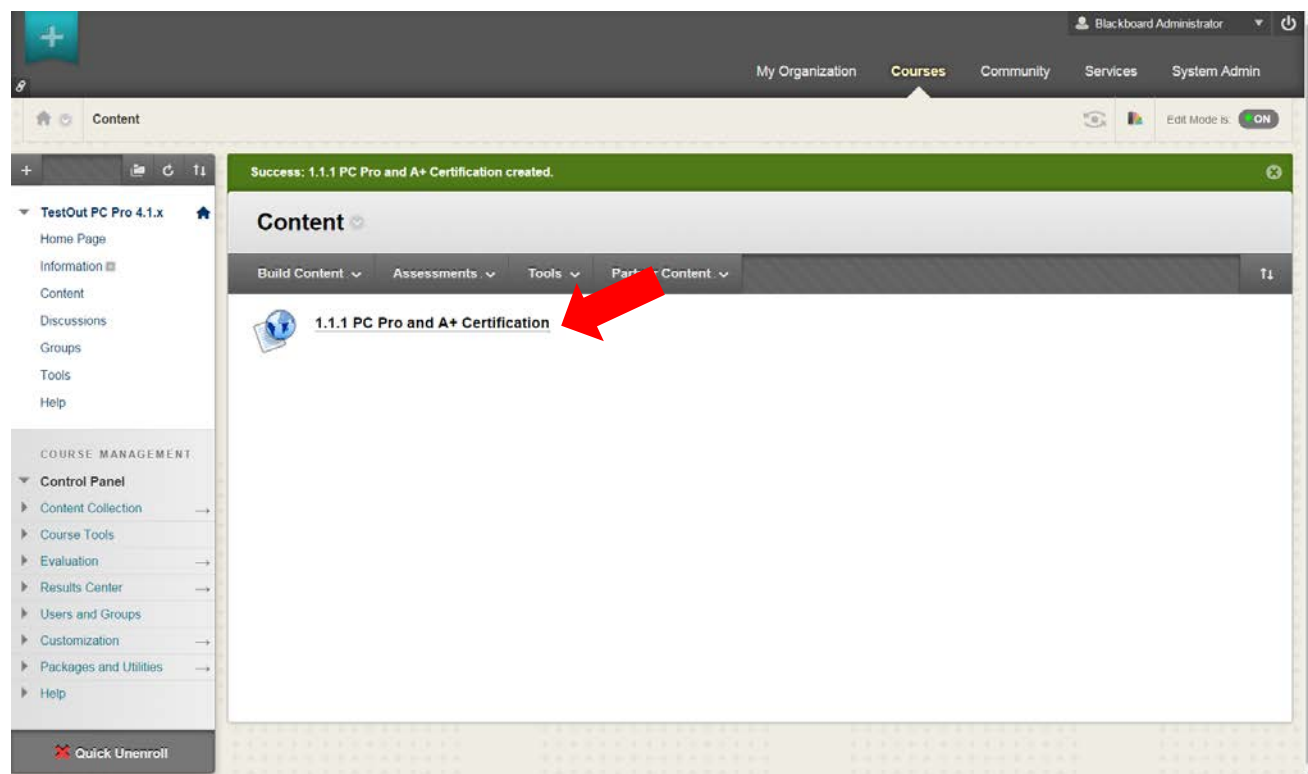
Select Date and Time: ☐ Display After

Fill in any other options you would like to fill in. Scroll down to the bottom of the page and click “Submit.”



This screenshot shows the Blackboard content creation form. At the top, there is a text area for the content, with a path field showing 'Path: p' and a word count of 'Words: 0'. Below this is the 'ATTACHMENTS' section, which includes a note: 'If you select a file you do not want, click **Do Not Attach** to remove the attachment from the content item. The file itself is not deleted.' There are two buttons: 'Attach File' and 'Browse My Computer', and a 'Browse Course' button. The 'WEB LINK OPTIONS' section has a radio button for 'Open in New Window' set to 'Yes'. The 'STANDARD OPTIONS' section includes radio buttons for 'Permit Users to View this Content' (set to 'Yes') and 'Track Number of Views' (set to 'No'). There are also date pickers for 'Display After' and 'Display Until', with instructions to 'Enter dates as mm/dd/yyyy. Time may be entered in any increment.' At the bottom right, there are 'Cancel' and 'Submit' buttons, with a red arrow pointing to the 'Submit' button.

You will see that the link to your course has now been created. Click on the link.

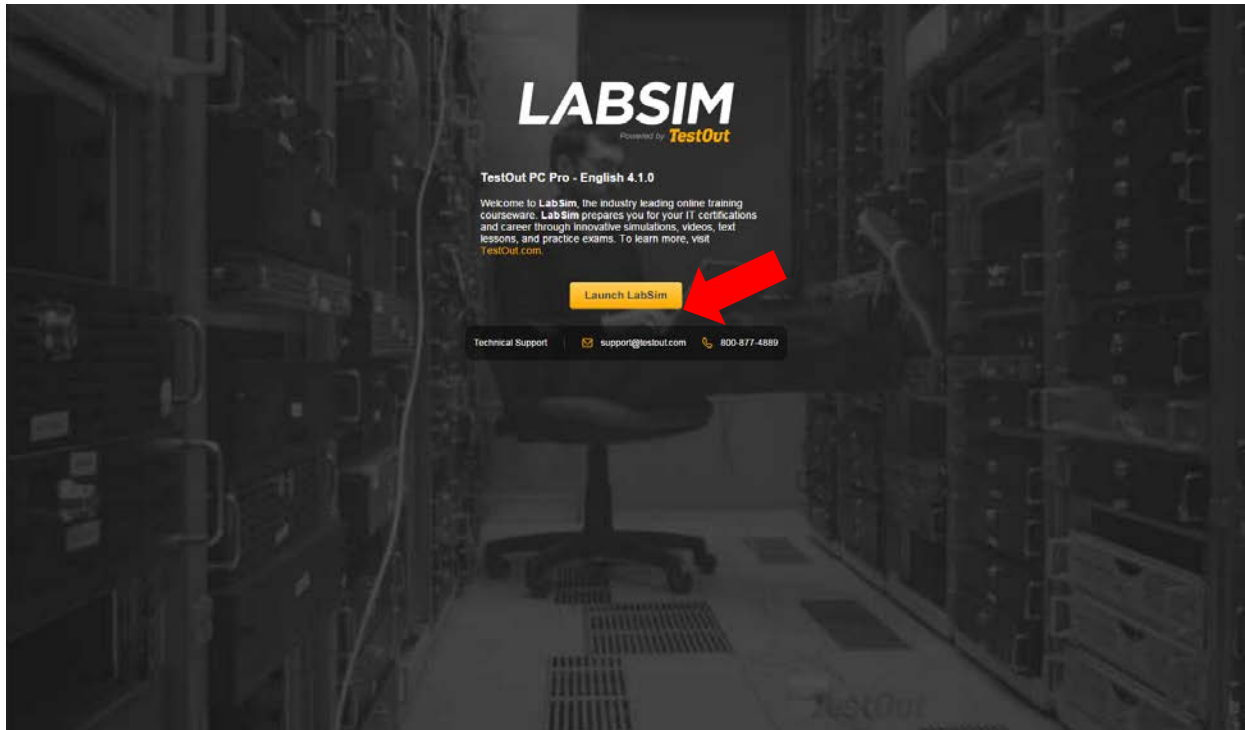


## Pooled or Group Licensing

If you are using Pooled or Group Licensing, after clicking the link, the following screen will come up, showing the course you will launch in LabSim. If you are using Activation Codes, please jump to the [next section](#).

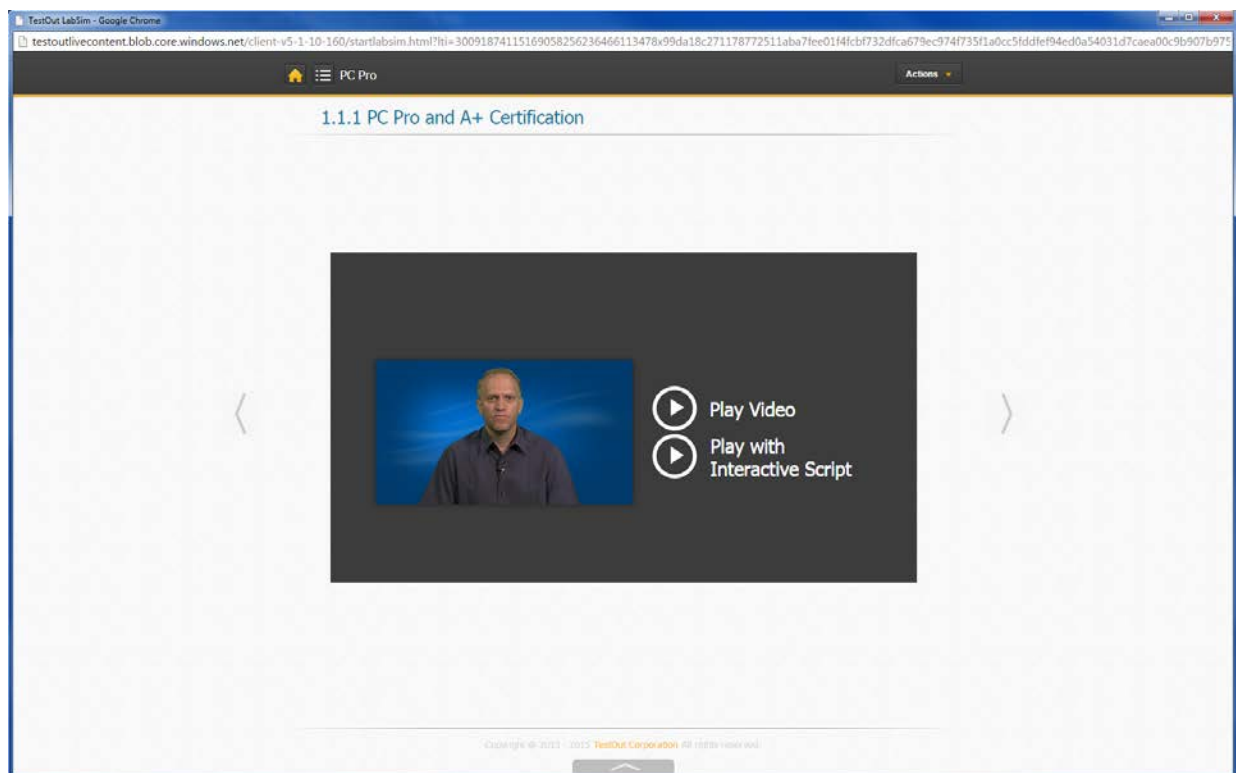
Click “Launch LabSim.”

**Note:** *If you have an existing LabSim account, make sure your emails in Blackboard and LabSim match to connect your Blackboard account to your LabSim account*





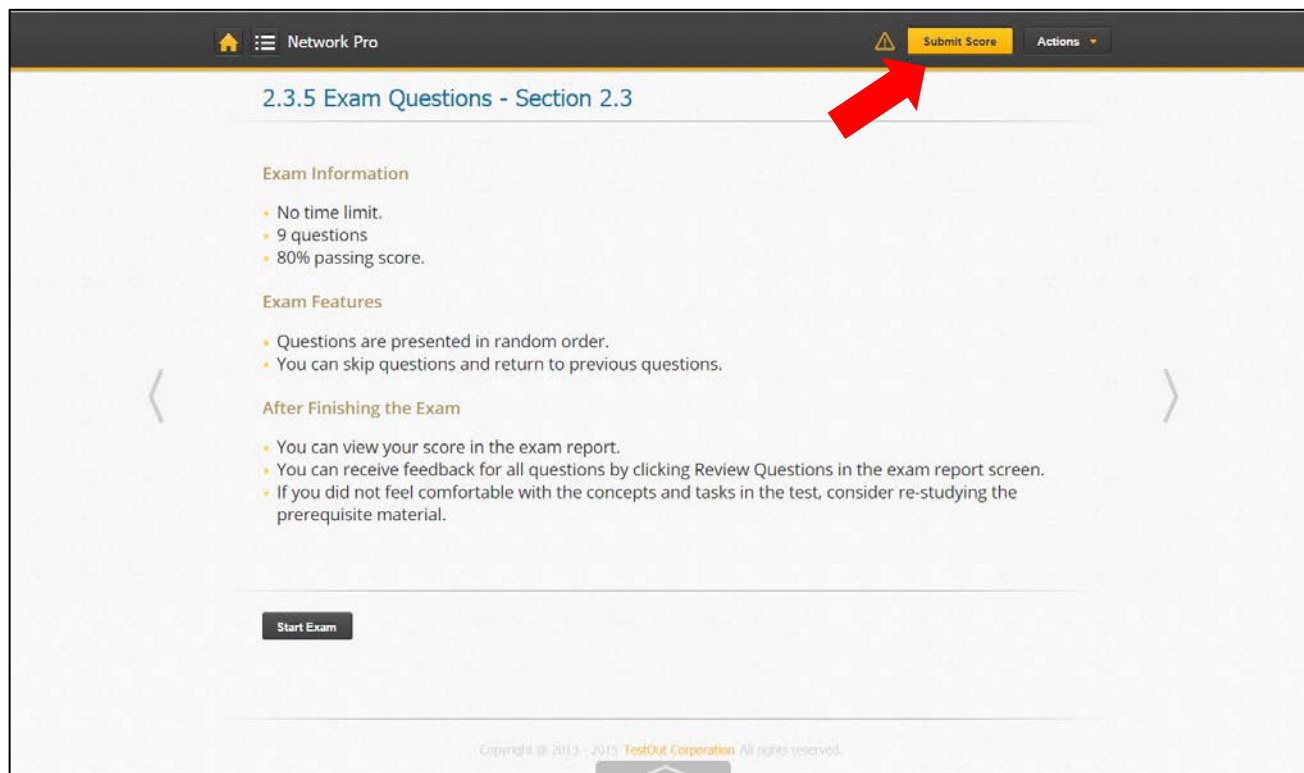
You will see that the section you designated is launched in LabSim.





**Please note:** If you are linking to a Lab or Quiz resource and wish to have scores reported from LabSim to Blackboard and have set up the score reporting correctly, you still might not see the “Submit Score” button by logging in through an Administrator or Instructor account. Blackboard does not allow these accounts to submit scores.

Logging into a student account should show you the “Submit Score” button as shown below.

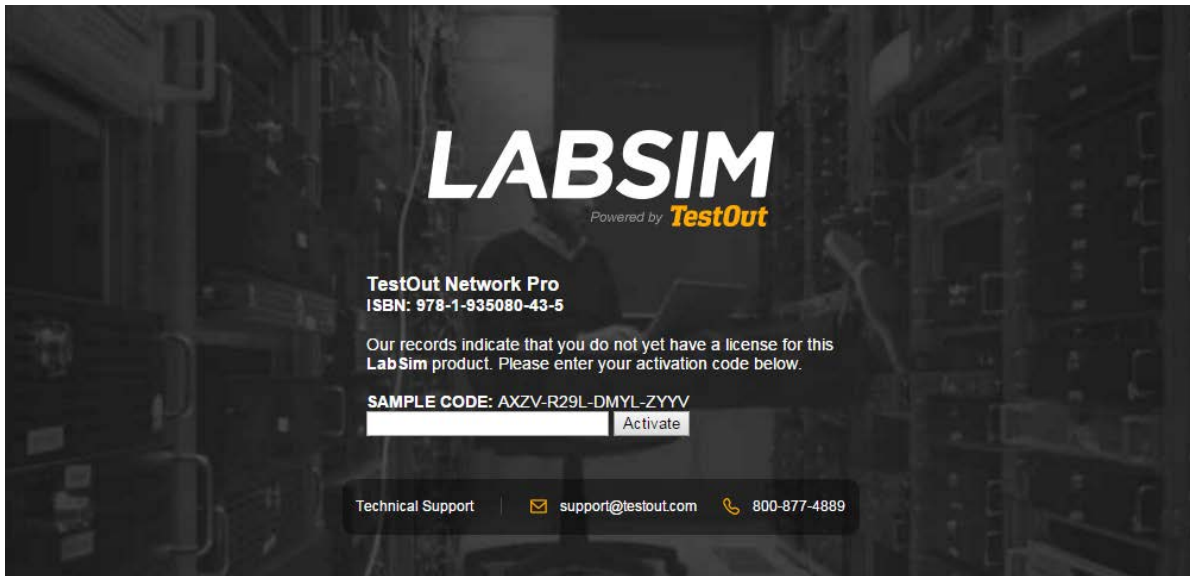


## Activation Codes

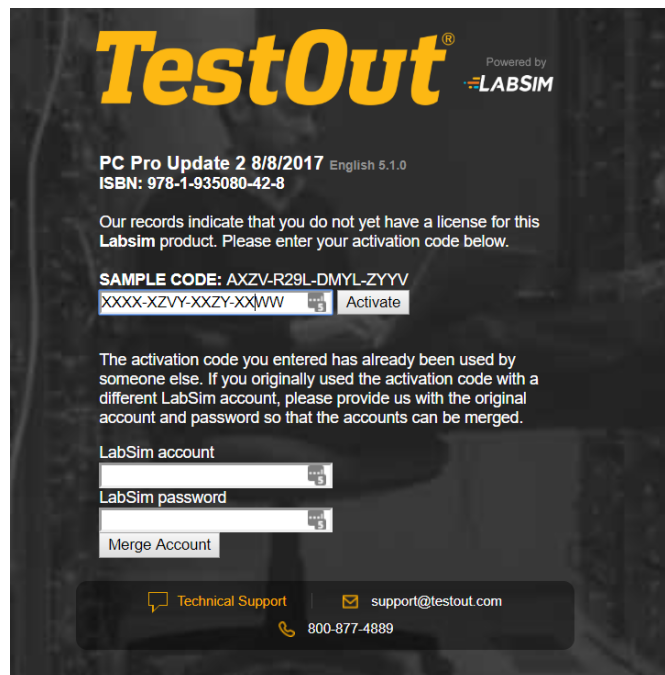
If you are using activations codes and do not have an existing account **OR** if you have an existing account but do not have the product you are trying to access activated, select the link to your course and you will see the following screen.

Input your activation code and click “Activate.”

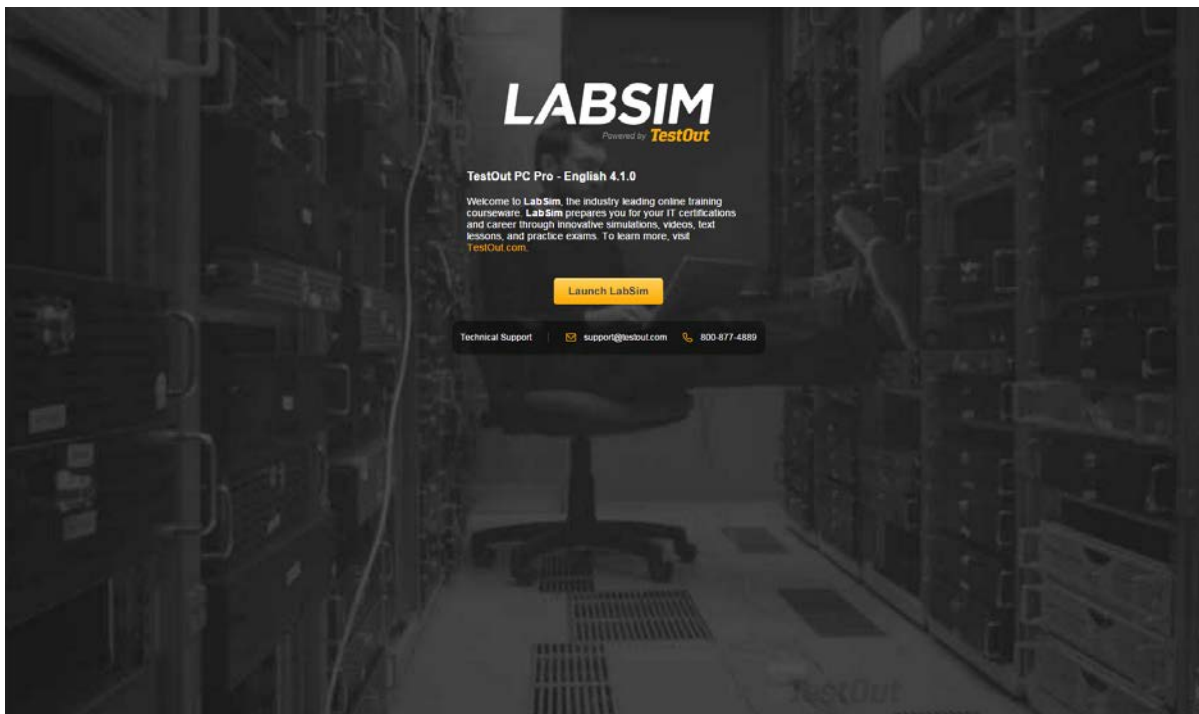
**Note:** If you have an existing LabSim account, make sure your emails in Blackboard and LabSim match to connect your Blackboard account to your LabSim account



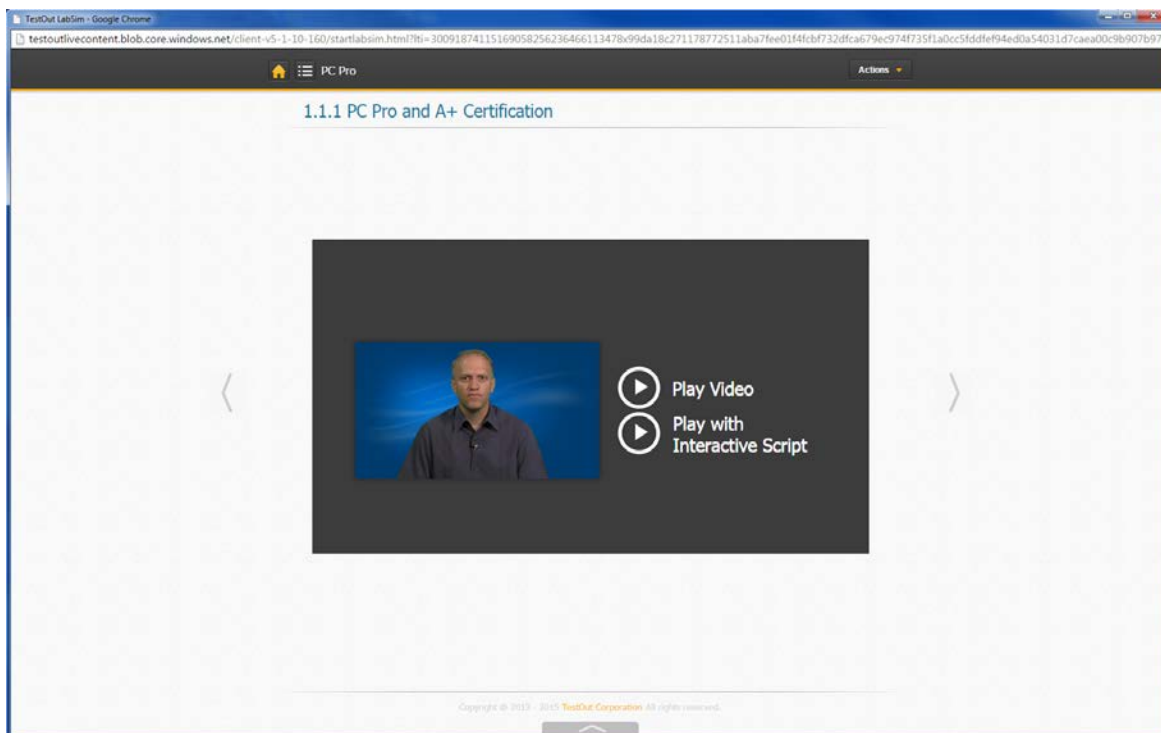
**Note:** If students use their activation code and create a LabSim account AND their emails do not match between Blackboard and LabSim, when the student puts in their activation code, they have the ability to link their existing account by putting in their LabSim login & password.



If you have an existing LabSim account and the product you are trying to access is activated, select the link to your course and you will see the following screen. Click “Launch LabSim.”

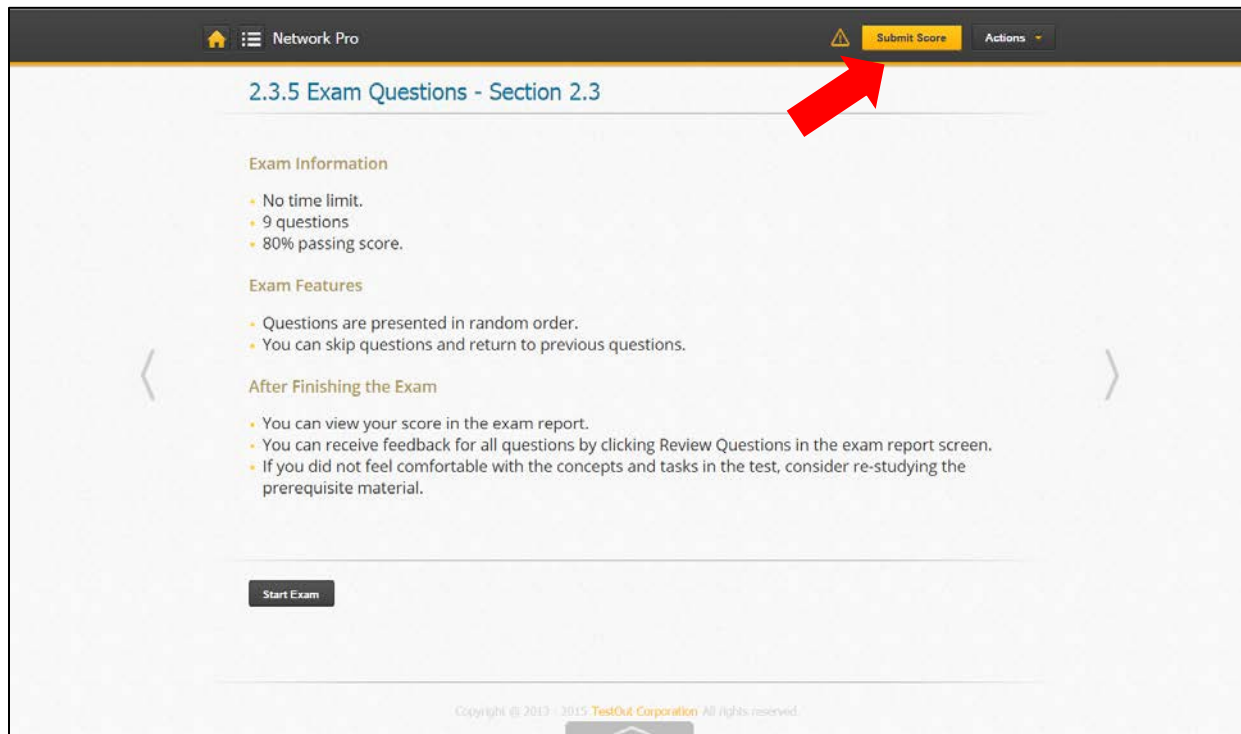


You will see that the section you designated is launched in LabSim.



**Please note:** If you are linking to a Lab or Quiz resource and wish to have scores reported from LabSim to Blackboard and have set up the score reporting correctly, you still might not see the “Submit Score” button by logging in through an Administrator or Instructor account. Blackboard does not allow these accounts to submit scores.

Logging into a student account should show you the “Submit Score” button as shown below.



## Linking to a Custom Exam

To link to a Custom Exam you will first need to find the Exam ID found on your Custom Exams screen in LabSim.

My Classes

My Staff

My Students

Custom Exams

Item Bank

+ Add

Actions

View

Teacher

10 results

◀ Prev

Page 1 of 1

Next ▶

Search

<input type="checkbox"/>	Exam Name	Exam IDs	Last Modified	Created By	Scheduled Classes	
<input type="checkbox"/>	Access End-of-Chapter Exam	XVFNH	4/20/2015	TestOut	0	Actions
<input type="checkbox"/>	Excel End-of-Chapter Exam	XE6R	4/20/2015	TestOut	1	Actions
<input type="checkbox"/>	PowerPoint End-of-Chapter Exam	XVP9R	4/20/2015	TestOut	0	Actions
<input type="checkbox"/>	Word End-of-Chapter Exam	XFKC	4/20/2015	TestOut	1	Actions
<input type="checkbox"/>	Copy of Linux Custom Exam2222	X3V94	8/30/2016	Administrator, Bl...	0	Actions
<input type="checkbox"/>	Linux Custom Exam	X2QPB	8/30/2016	Administrator, Bl...	0	Actions
<input type="checkbox"/>	Multiple Attempt Test	X39Q5	11/16/2016	Administrator, Bl...	2	Actions
<input type="checkbox"/>	PC Pro Test Custom Exam	X3AA8	11/22/2016	Administrator, Bl...	1	Actions
<input type="checkbox"/>	Test Exam	X2BFE	5/27/2016	Administrator, Bl...	1	Actions
<input type="checkbox"/>	Test-Week1	X2PNX	5/27/2016	Administrator, Bl...	1	Actions

Following the same steps outlined in [Setting up Links to your LabSim Course](#), use the Exam ID in place of the section number.

You must include `labsim_class_id={Your Class Name Here}` if you want the score stored and visible within your LabSim class).

For example:

`https://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=X2BFE&labsim_class_id={Your Class Name Here}`

## Linking to a TestOut Pro Certification Exam

To link to a TestOut Pro Certification Exam, follow the same steps as outlined in [Setting up Links to your LabSim Course](#), but simply replace the value following `labsim_section_id=` with the name of the Pro Certification Exam.

For example:

`https://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=TestOut%20Network%20Pro%20Certification`

Note that the `labsim_course_id=` followed by the ISBN of your course is still required.

Scores cannot be sent back to the LMS for Pro Certifications at this point.

# Creating a LabSim Class using LMS Integration

## Using LTI to Create a Class

You can create a class in LabSim by adding the custom parameter *labsim\_class\_id* followed by the name of your class (if you did not include the *labsim\_class\_id* parameter in the [External Tool setup](#)).

**Note:** If you have spaces in your class title, please insert %20 in place of the spaces.

In the end, your URL might look something like this:

`http://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=9.5.3&labsim_allow_outcomes=true&labsim_class_id=Test%20Networking%20Class`

## Assigning a Teacher and Product to the Class

### Creating a New Class

A teacher can create a new class by clicking on an assignment where the link contains the *labsim\_class\_id* parameter (or any link created if you included the *labsim\_class\_id* parameter in the [External Tool setup](#)).

By doing this, the teacher creates the class, is assigned as the instructor and associates a TestOut product to the class (based on the ISBN contained in the URL).

**Note:** The first instructor that clicks on a link in this course (with the *labsim\_class\_id*) will be placed as the instructor of this course. To replace the instructor of this class, you will have to do so within LabSim.

### Linking to an Existing LabSim Class

A teacher can add students to class that was previously created in LabSim by creating a link with the *labsim\_class\_id* and adding the EXACT class name after the custom parameter (remembering to add %20 in place of any spaces).

### Adding Students to the Class

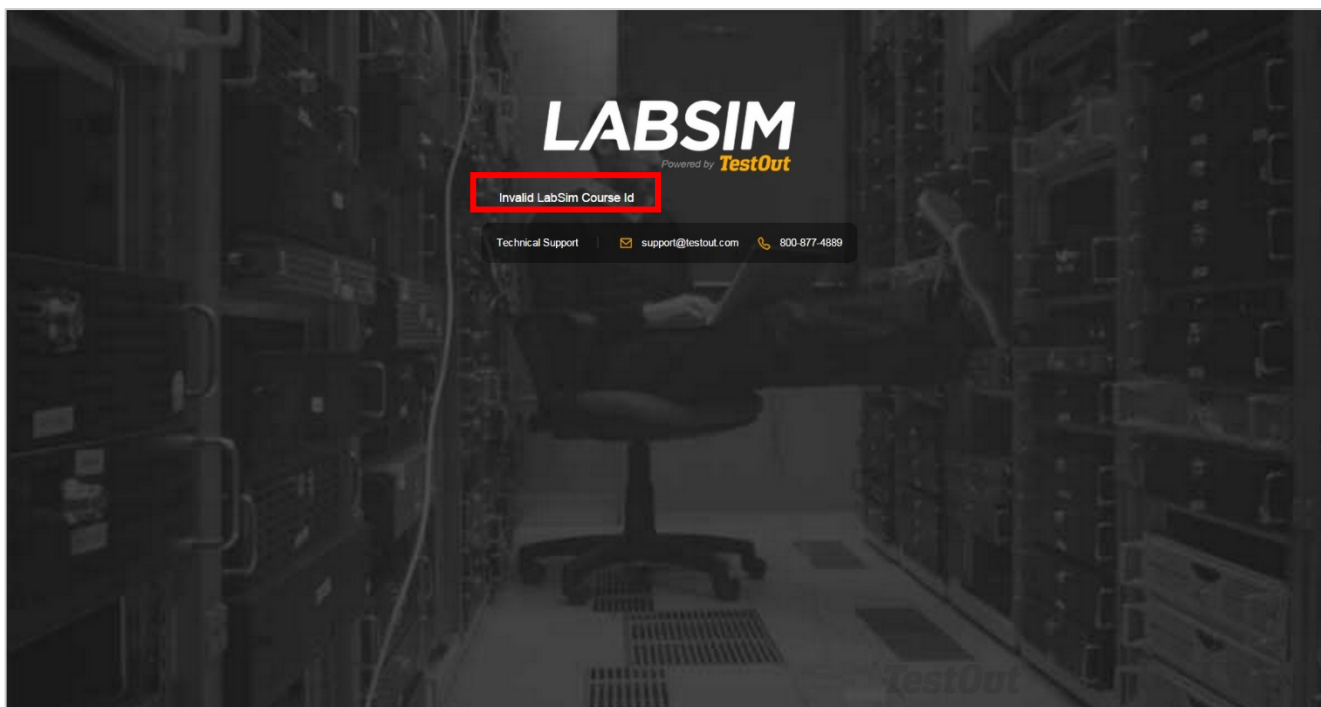
To add students to a class, students need only to click on an assignment that contains the *labsim\_class\_id* parameter in the URL. Once a student clicks on ONE LINK that contains *labsim\_class\_id*, they will be added to the indicated class.

**Note:** The custom parameter *labsim\_class\_id* does not need to be in every link to LabSim, just make sure it is in one of the initial links a student clicks on inside of your LMS.

# Common Errors

There are some common errors that we have seen when trying to integrate LabSim with LMS Systems.

Below you see an error when trying to connect to LabSim. The text in the box will often give you a clue as to what the information LabSim is not receiving so that you can correct the problem in you LMS. Below are some of the common errors. If you see an error other than one of these, please contact us.



**Invalid Consumer Key:** This means that you have inputted your Consumer Key incorrectly. Please verify you have keyed the Consumer Key correctly. If you have, please take a screenshot and contact us.

**OAuth Authorization Failed:** Your Shared/Consumer Secret is incorrect. Please verify you have keyed the Consumer Key correctly.

Additionally, if you have descriptions in your web links and have not added *oauth\_lenient=true*, please refer to page 7 of this document.

If you have verified these two things and still are getting the error, please take a screenshot and contact us.

**Invalid LabSim Course Id:** You have inputted the parameters that direct you to the course you are looking to access. The parameter should look like this—the value after the equal sign is the ISBN of your LabSim product:

*labsim\_course\_id=978-1-935080-43-5*

**Invalid User Id:** LabSim requires that the User ID is passed from the LMS. If you are receiving this error, you (or your admin) needs to change the permissions in your LMS to pass over the User ID to LabSim.



**Invalid User Role:** LabSim requires a user role to be passed over from the LMS. This is how LabSim knows to create an instructor account or a student account. If you are receiving this error, you (or your admin) needs to change the permissions in your LMS to pass over the role to LabSim.

**No licenses are available for the requested product:** This error means that your Consumer Key and Secret have been setup with a group licensing model and there are no more licenses available. Please contact your Account Executive to get more licenses added to the pool.

### Server Error in '/OrbisPartner' Application

The "Launch URL" you input into the LMS is incorrect. It should be:

<http://www.testout.com/orbispartner/basiclti.aspx>

Please verify that it is correct. If it is and you are still getting this error, please take a screenshot of both the screen and the URL you have input and contact us.

#### Server Error in '/OrbisPartner' Application.

*The resource cannot be found.*

**Description:** HTTP 404. The resource you are looking for (or one of its dependencies) could have been removed, had its name changed, or is temporarily unavailable. Please review the following URL and make sure that it is spelled correctly.

**Requested URL:** /orbispartner/basiclti.aspx

**Version Information:** Microsoft .NET Framework Version:4.0.30319; ASP.NET Version:4.0.30319.18449



## Getting the “This is a Tool Provider” checkbox while creating a Web Link

If the “This is a Tool Provider” check box is not available when creating a Web Link, go to the Control Panel and under the Customization pane, click on “Tool Availability.”



Scroll down to the line item that is titled “LTI.” Make sure LTI is “Available” by checking the first checkbox as shown below. Then, scroll to the bottom or top of the page and click “Submit.”

Unnecessary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groups	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Item	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Journals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Journals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learner List	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learning Module	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lesson Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LTI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LTI Link	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Manual Entry Textbook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Math Editor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McGraw-Hill Assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Blog	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Discussion Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Dynamic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment File Attach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Homework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Learnsmart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Mundo Interactivo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Personalized Learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
McGraw-Hill Assignment Practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>