



TestOut's LabSim Plugin for BrightSpace

INTEGRATION GUIDE

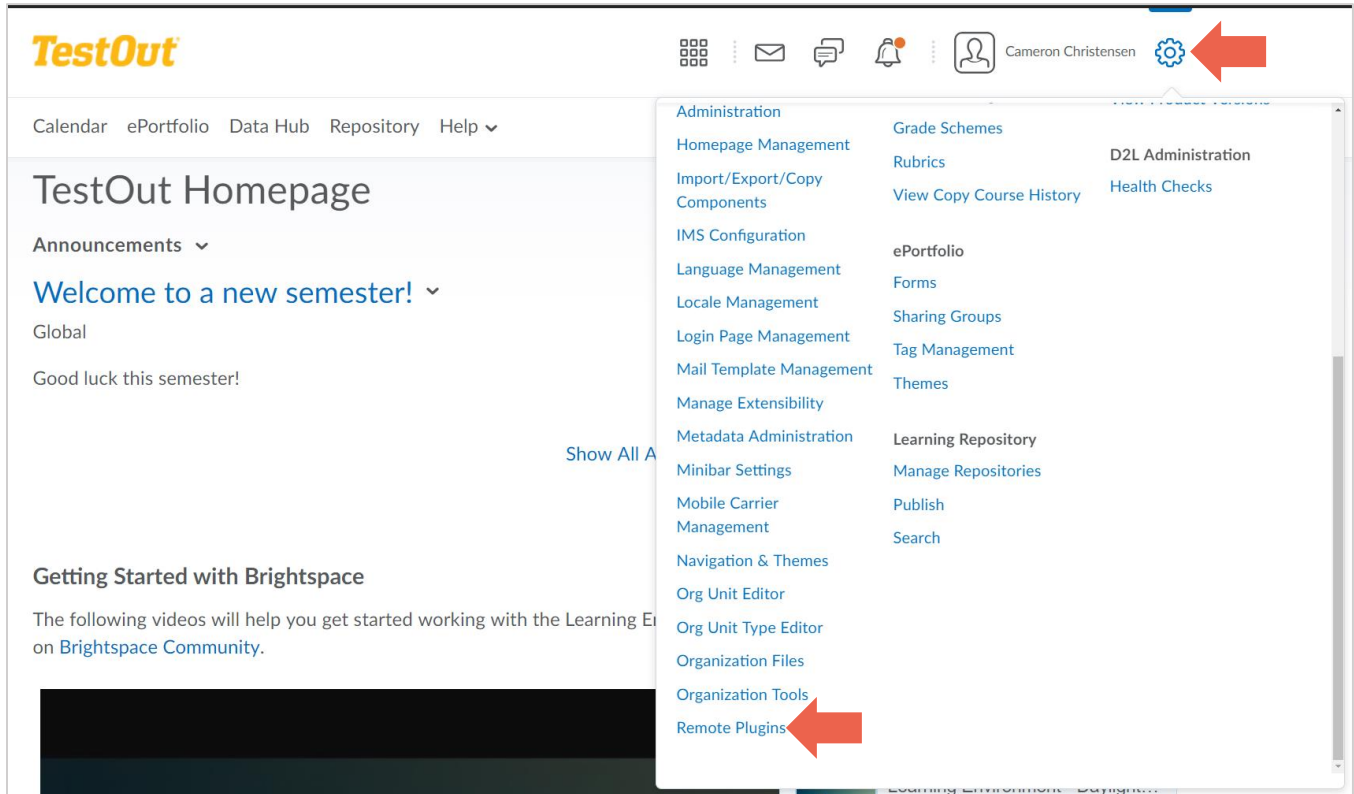
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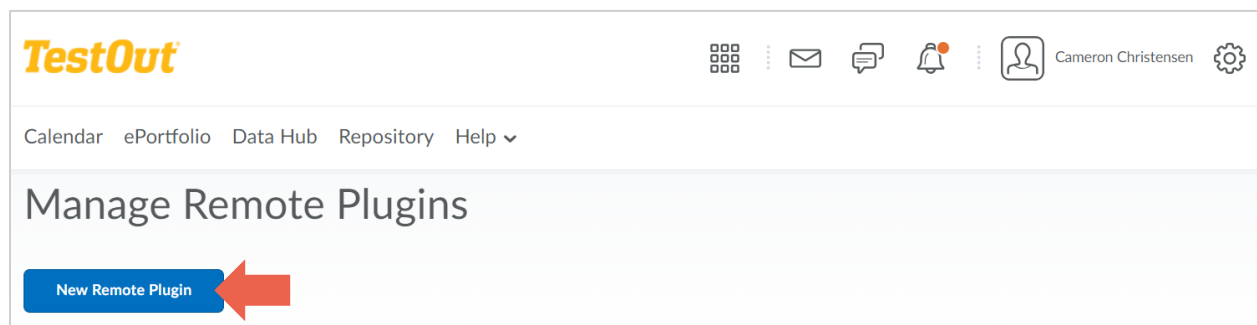
SETTING UP THE TESTOUT PLUGIN (BRIGHTSPACE ADMINS)

Setting up the Course Creation Plugin

Click on the *Admin Tools* icon and then select *Remote Plugins*.



Click on the *New Remote Plugin* button.

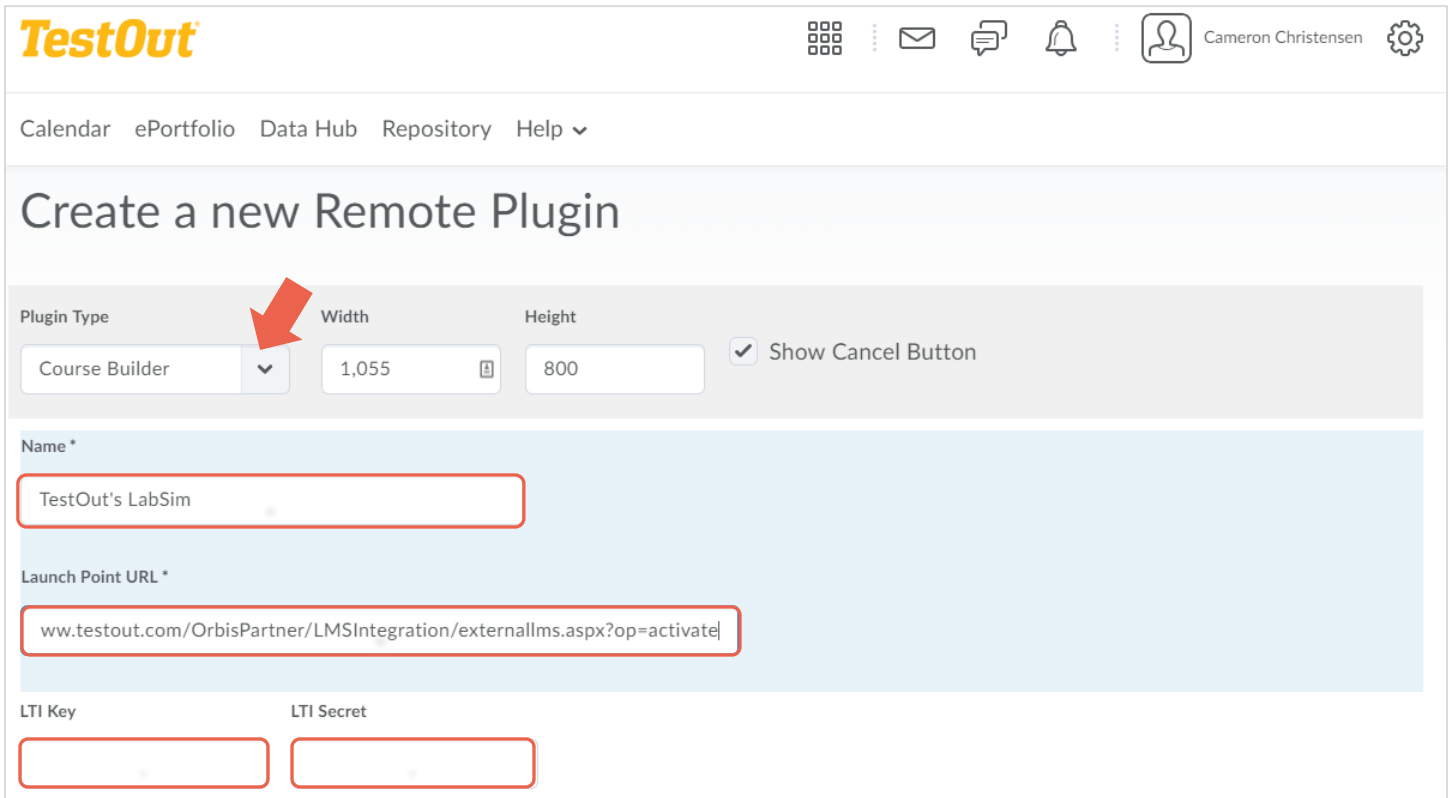


Select Plugin Type to be Course Builder.

Give the plugin a name (Something like TestOut's LabSim).

Insert <https://www.testout.com/OrbisPartner/LMSIntegration/externallms.aspx?op=activate> as the *Launch Point URL*.

Add your campus LTI Key and LTI Secret given to you from your TestOut Representative.



TestOut

Calendar ePortfolio Data Hub Repository Help ▾

Create a new Remote Plugin

Plugin Type: Course Builder (selected) Width: 1,055 Height: 800 ☒ Show Cancel Button

Name *
TestOut's LabSim

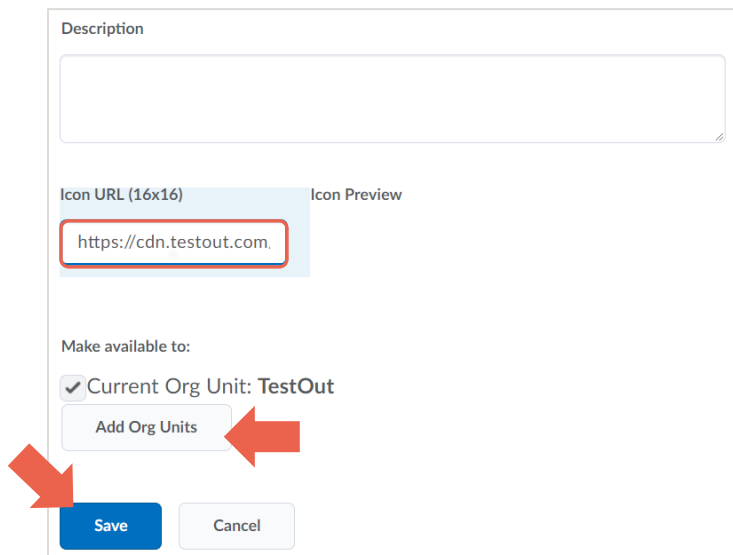
Launch Point URL *
www.testout.com/OrbisPartner/LMSIntegration/externallms.aspx?op=activate

LTI Key LTI Secret

If you wish, you can use this URL (https://cdn.testout.com/labsimsaas/images_v2/t_logo.png) for a small TestOut icon.

Scroll down and press the *Add Org Units* button. Add the plugin to the departments, courses, and/or templates you wish to have the plugin available.

When finished, press *Save*.



Description

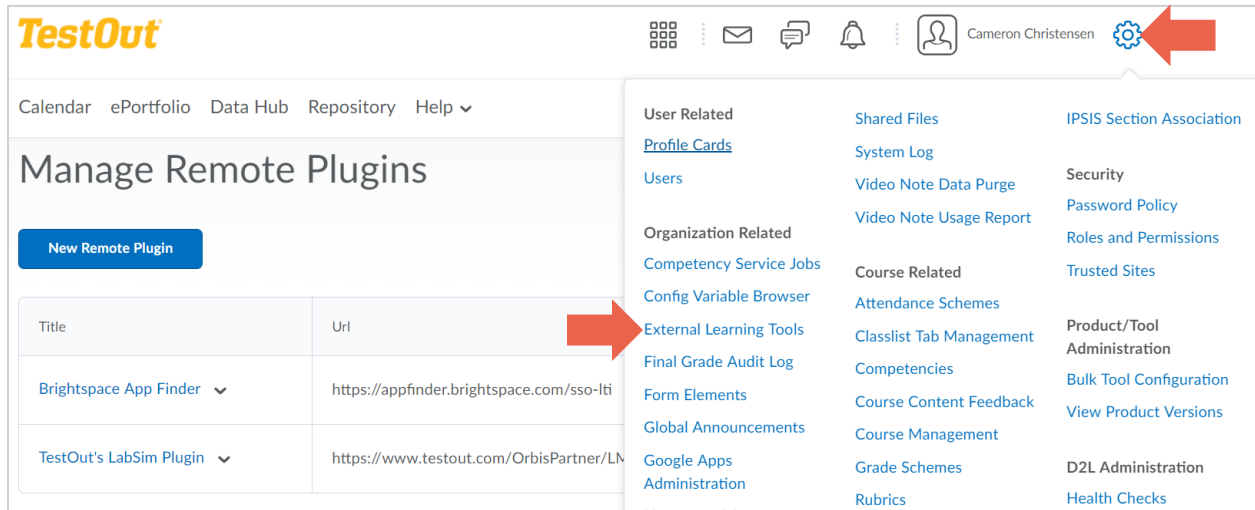
Icon URL (16x16) Icon Preview
https://cdn.testout.com/

Make available to:
☒ Current Org Unit: TestOut

Add Org Units

Save Cancel

Next, click on the *Admin Tools* icon and then navigate to *External Learning Tools*.



TestOut

Calendar ePortfolio Data Hub Repository Help ▾

Manage Remote Plugins

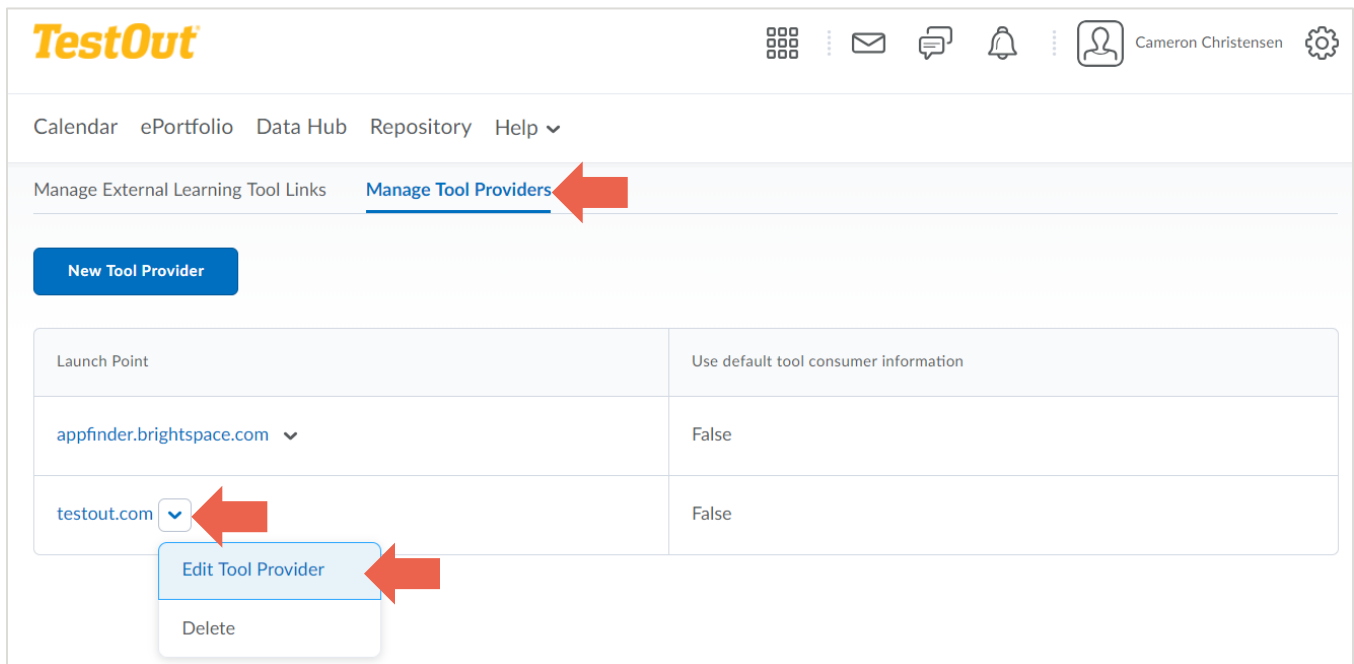
[New Remote Plugin](#)

Title	Url
Brightspace App Finder ▾	https://appfinder.brightspace.com/sso-lti
TestOut's LabSim Plugin ▾	https://www.testout.com/OrbisPartner/LN

Admin Tools

- User Related
 - [Profile Cards](#)
 - [Users](#)
- Organization Related
 - [Competency Service Jobs](#)
 - [Config Variable Browser](#)
 - [External Learning Tools](#)
 - [Final Grade Audit Log](#)
 - [Form Elements](#)
 - [Global Announcements](#)
 - [Google Apps Administration](#)
- Shared Files
 - [System Log](#)
 - [Video Note Data Purge](#)
 - [Video Note Usage Report](#)
- Course Related
 - [Attendance Schemes](#)
 - [Classlist Tab Management](#)
 - [Competencies](#)
 - [Course Content Feedback](#)
 - [Course Management](#)
 - [Grade Schemes](#)
 - [Rubrics](#)
- IP SIS Section Association
 - [Security](#)
 - [Password Policy](#)
 - [Roles and Permissions](#)
 - [Trusted Sites](#)
 - [Product/Tool Administration](#)
 - [Bulk Tool Configuration](#)
 - [View Product Versions](#)
 - [D2L Administration](#)
 - [Health Checks](#)

Navigate to *Manage Tool Providers* and find the testout.com launch point. Press the dropdown menu icon and then select *Edit Tool Provider*.



TestOut

Calendar ePortfolio Data Hub Repository Help ▾

Manage External Learning Tool Links [Manage Tool Providers](#)

[New Tool Provider](#)

Launch Point	Use default tool consumer information
appfinder.brightspace.com ▾	False
testout.com ▾	False

testout.com ▾

- [Edit Tool Provider](#)
- [Delete](#)

Verify the settings and scroll down.

TestOut

Calendar ePortfolio Data Hub Repository Help ▾

Edit Tool Provider - testout.com

Tool Provider Settings

Launch Point *

testout.com

Version

Inherit Global (1.1) ⓘ

OAuth Signature Method

HMAC-SHA1

Secret

Reset secret

Tool consumer information

☒ Use custom tool consumer information instead of default

Key

Save and Close Save Cancel

In the *Security Settings* section check all the options to send LabSim the necessary information to send the information needed to create LabSim accounts.

Verify that the org units that will use the plugin are listed and then click *Save and Close*.

Visibility

☒ Allow users to use this tool provider

Security Settings

- ☒ Send tool consumer information to tool provider
- ☒ Send context information to tool provider
- ☒ Send course information to tool provider
- ☒ Send LTI user ID and LTI role list to tool provider
- ☒ Send user name to tool provider
- ☒ Send user email to tool provider
- ☒ Send system username to tool provider
- ☒ Send system Org Defined ID to tool provider
- ☒ Send system role to tool provider
- ☒ Send link title to tool provider
- ☒ Send link description to tool provider

Make tool provider available to:

☒ Current Org Unit: TestOut

Add Org Units

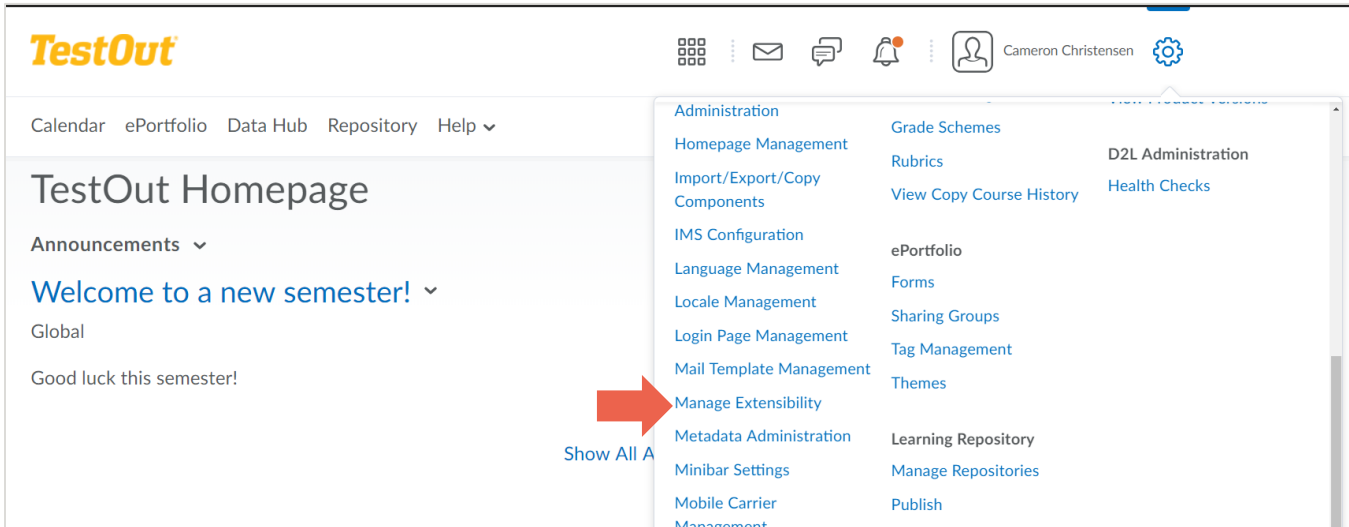
The Course Offering: TestOut Desktop Pro ✕

The Department: TestOut Desktop ✕

The Course Offering: DPP ✕

Save and Close Save Cancel

The final step is to click on the *Admin Tools* icon and then select *Manage Extensibility*.



The screenshot shows the TestOut Admin Tools interface. The 'Admin Tools' menu is open, displaying a list of administrative options. A red arrow points to the 'Manage Extensibility' option in the 'Administration' section. The 'Show All Admin Tools' link is also visible below the menu.

TestOut

Calendar ePortfolio Data Hub Repository Help ▾

TestOut Homepage

Announcements ▾

Welcome to a new semester! ▾

Global

Good luck this semester!

Administration

- Homepage Management
- Import/Export/Copy Components
- IMS Configuration
- Language Management
- Locale Management
- Login Page Management
- Mail Template Management
- Manage Extensibility**
- Metadata Administration
- Minibar Settings
- Mobile Carrier Management

Grade Schemes

- Rubrics
- View Copy Course History

D2L Administration

- Health Checks

ePortfolio

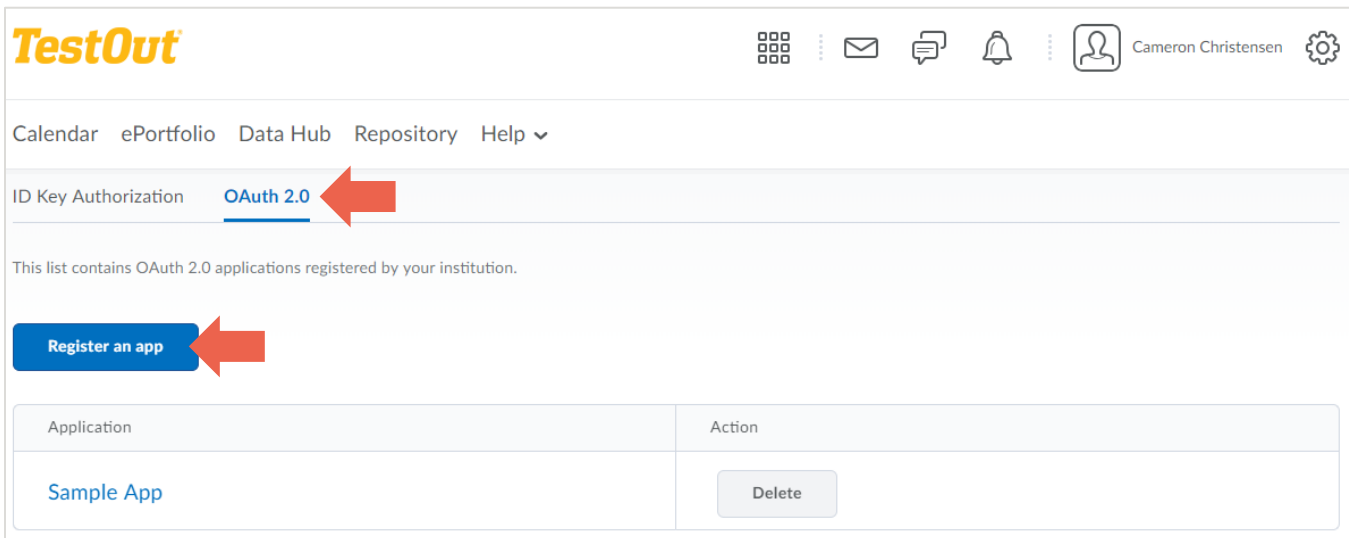
- Forms
- Sharing Groups
- Tag Management
- Themes

Learning Repository

- Manage Repositories
- Publish

Show All Admin Tools

Select the *OAuth 2.0* tab and then press the *Register an app* button.



The screenshot shows the TestOut OAuth 2.0 tab. The 'Register an app' button is highlighted with a red arrow. Below the button is a table listing registered applications.

TestOut

Calendar ePortfolio Data Hub Repository Help ▾

ID Key Authorization **OAuth 2.0**

This list contains OAuth 2.0 applications registered by your institution.

Register an app

Application	Action
Sample App	Delete

Name the application TestOut (or something similar).

Fill in the *Redirect URL* with:

<https://www.testout.com/OrbisPartner/LMSIntegration/externallms.aspx?op=auth>

Add the following for the *Scope*:

content:*:* core:*:* grades:*:* users:*:*

For restrictive scopes see Appendix B.

Check the box *I accept the Non-Commercial Developer Agreement*

Click the *Register* button.

ID Key Authorization
OAuth 2.0

This list contains OAuth 2.0 applications registered by your institution.

Register an Application

Application Name*

Redirect URI*

This is where we will redirect the user after authorization succeeds. Must be HTTPS.

Scope*

This value represents the resources accessed by the application on behalf of the user. Use space-delimited strings of the form group:resource:permissions where "group" can not be a wildcard (i.e. "**").

Access Token Lifetime (seconds)*

The lifetime of the access token (in seconds), with a minimum of 1800 seconds (30 minutes) and a maximum of 72000 seconds (20 hours). After this time, the token is invalidated, and the user will be prompted to log in.

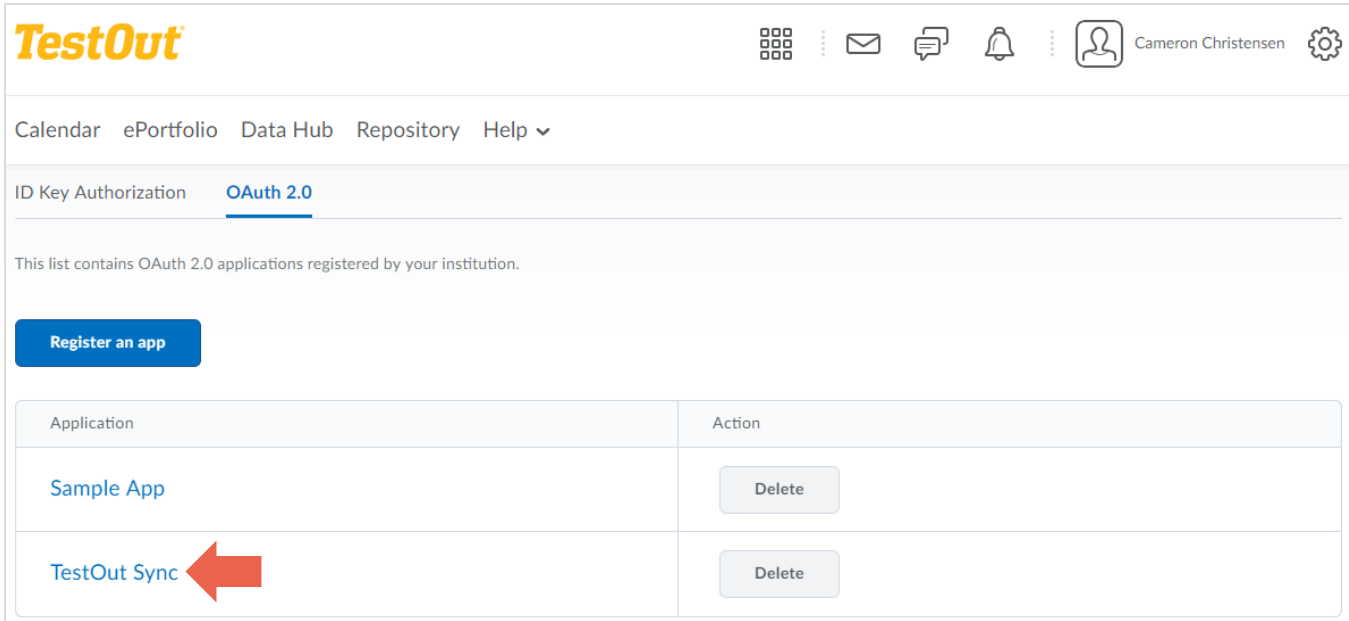
Description

Description

☒ Prompt for user consent
☒ Enable refresh tokens
☒ I accept the Non-Commercial Developer Agreement*

Register
Cancel

Click on the app you just registered.



TestOut

Calendar ePortfolio Data Hub Repository Help ▾

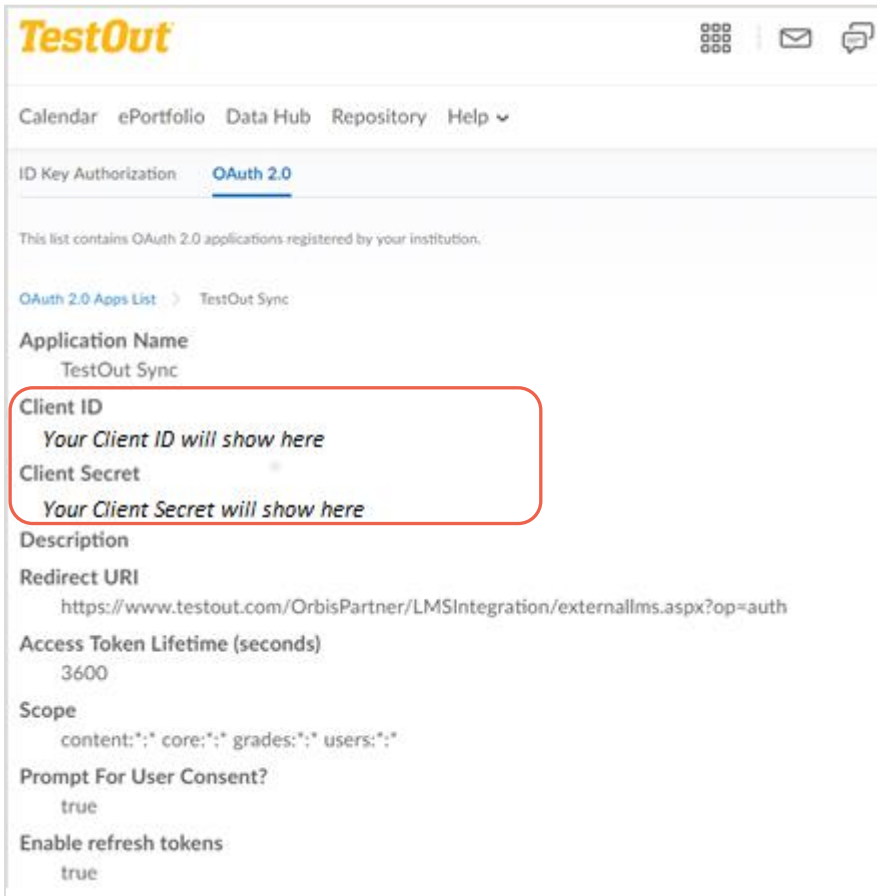
ID Key Authorization OAuth 2.0

This list contains OAuth 2.0 applications registered by your institution.

[Register an app](#)

Application	Action
Sample App	Delete
TestOut Sync	Delete

Take note of the *Client ID* and *Client Secret*. You will need to submit these values to TestOut in the next step.



TestOut

Calendar ePortfolio Data Hub Repository Help ▾

ID Key Authorization OAuth 2.0

This list contains OAuth 2.0 applications registered by your institution.

[OAuth 2.0 Apps List](#) > [TestOut Sync](#)

Application Name
TestOut Sync

Client ID
Your Client ID will show here

Client Secret
Your Client Secret will show here

Description

Redirect URI
<https://www.testout.com/OrbisPartner/LMSIntegration/externallms.aspx?op=auth>

Access Token Lifetime (seconds)
3600

Scope
content:* core:* grades:* users:*

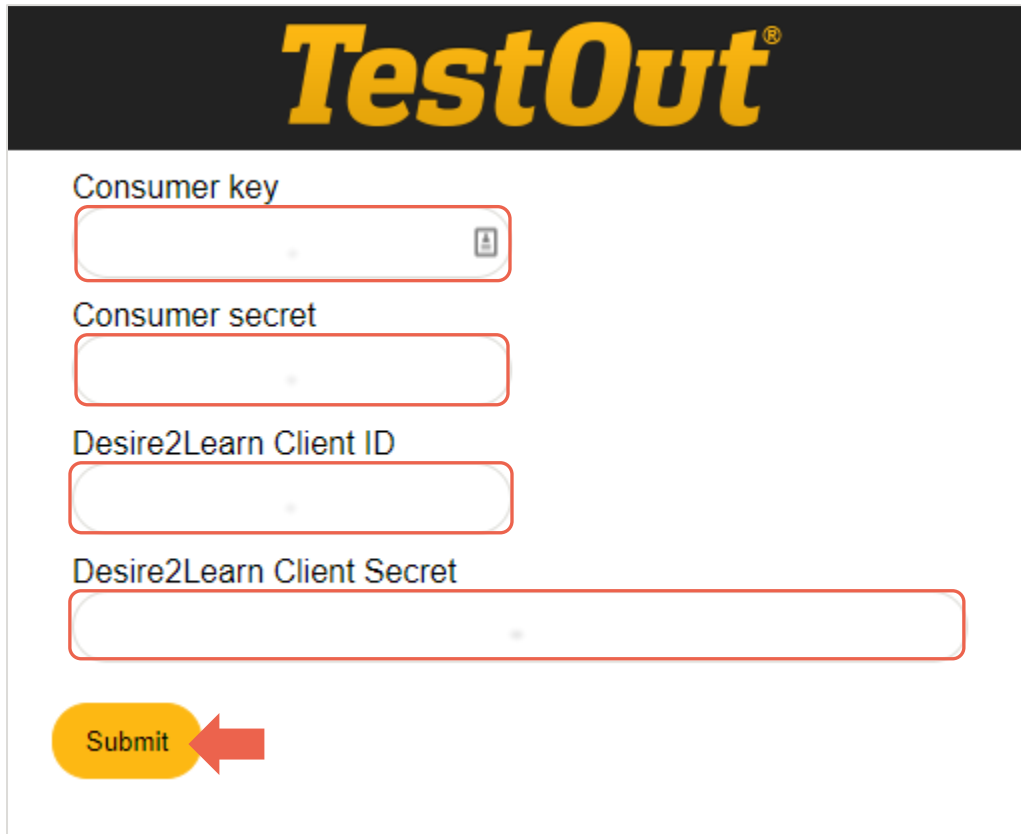
Prompt For User Consent?
true

Enable refresh tokens
true

Navigate to <https://cdn.testout.com/d2l-signup/index.html>. Input your *Consumer Key* and *Consumer Secret* that were sent to you by your TestOut Representative.

Next, input your *Client ID* and *Client Secret* (created when you registered your new app) into their respective fields.

Click *Submit*.



The image shows a registration form for TestOut. At the top is a black header with the "TestOut" logo in yellow. Below the header, the form contains four input fields, each with a red border and a small grey eye icon on the right side. The fields are labeled "Consumer key", "Consumer secret", "Desire2Learn Client ID", and "Desire2Learn Client Secret". At the bottom left of the form is a yellow "Submit" button with a red arrow pointing to it from the right.

TestOut[®]

Consumer key

Consumer secret

Desire2Learn Client ID

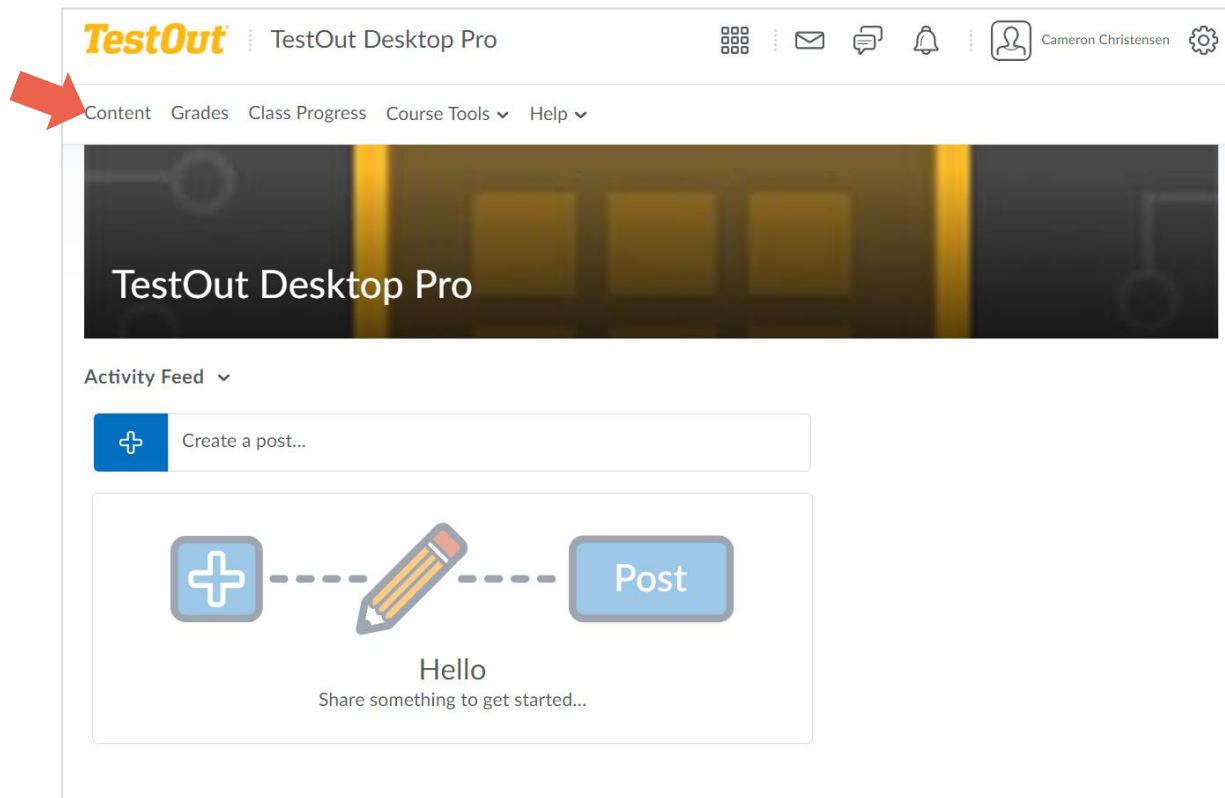
Desire2Learn Client Secret

Submit

ADDING TESTOUT CONTENT TO YOUR COURSE (ADMINS/INSTRUCTORS)

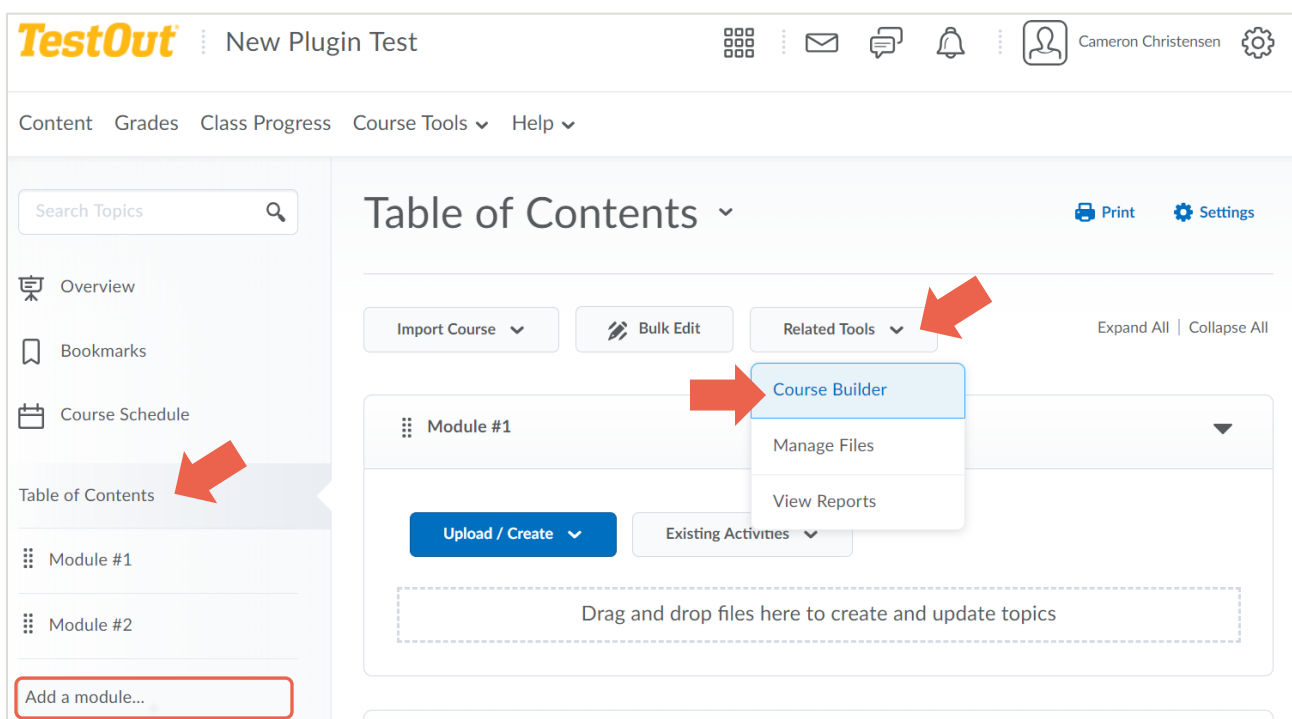
Linking To TestOut Course Resources

After creating your course with a **start date**, navigate to the *Content* section of the course.



Create a module to put assignment links into. After doing so click *Table of Contents*.

On the *Table of Contents* screen select the *Related Tools* dropdown and then *Course Builder* (You can also access *Course Builder* through the *Course Admin* screen).



Inside of *Course Builder*, click on the *TestOut* plugin inside of the *Add Content* section.

The screenshot shows the TestOut Course Builder interface. The 'Add Content' section is active, displaying various content types. A red arrow points to the 'TestOut' icon (a yellow circle with a 'T'). The 'New Plugin Test' section is highlighted, showing 'Module #1' and 'Module #2'. The right sidebar shows details for the 'New Plugin Test', including 'Edit Course Information', 'Create Module', 'General' information (Course Path, Department), 'Restrictions' (Status: Active, Start date: Jan 1, 2018), and 'Browse Tools'.

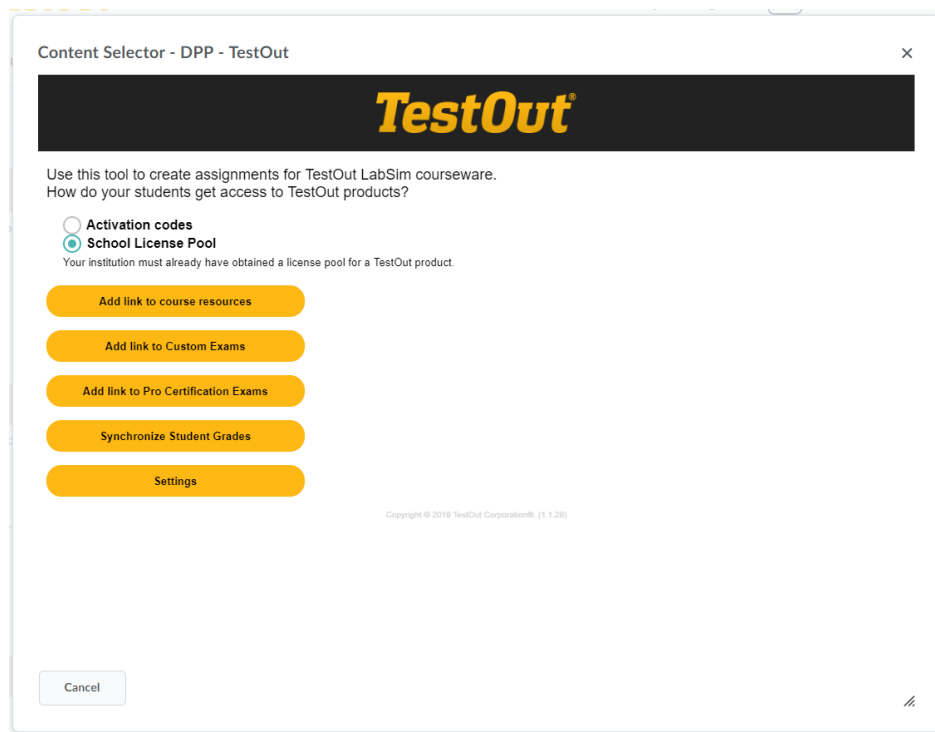
Select the module that you would like to create links in.

The 'Select a location' dialog box is shown. It prompts the user to 'Select the location in the course structure to add the selected object(s) to.' The options are 'Module #1' and 'Module #2'. A red arrow points to 'Module #2'. There is a 'Cancel' button at the bottom.

The first time you launch (or if it has been awhile since you last used the plugin), click *Accept* to launch the plugin.

The 'Content Selector - New Plugin Test - TestOut' dialog box is shown. It asks 'Would you like the following app to operate using your account?'. The application name is 'TestOut LabSim'. There are 'Accept' and 'Cancel' buttons. A red arrow points to the 'Accept' button. There is also a 'Cancel' button at the bottom.

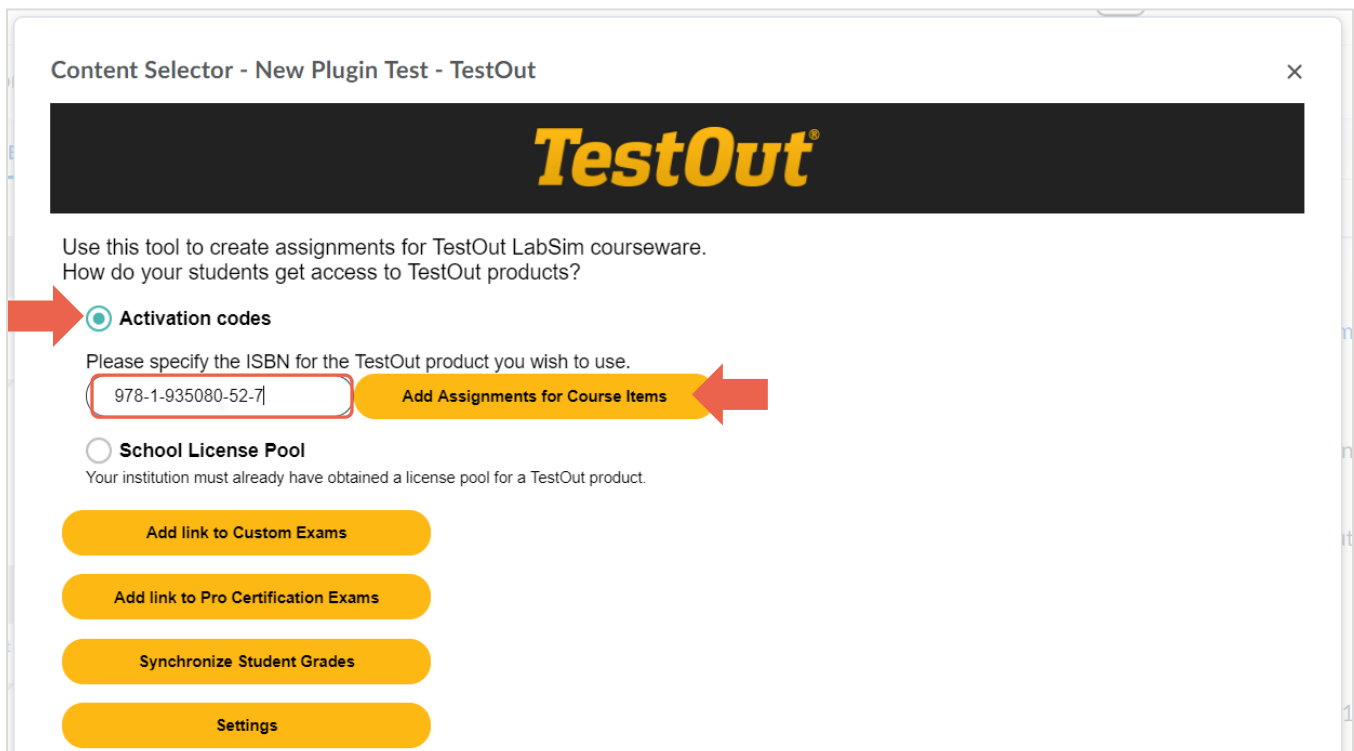
The plugin will load, allowing you to select how your students gain access to TestOut's products: Activation Codes or License Pools,



Activation Codes

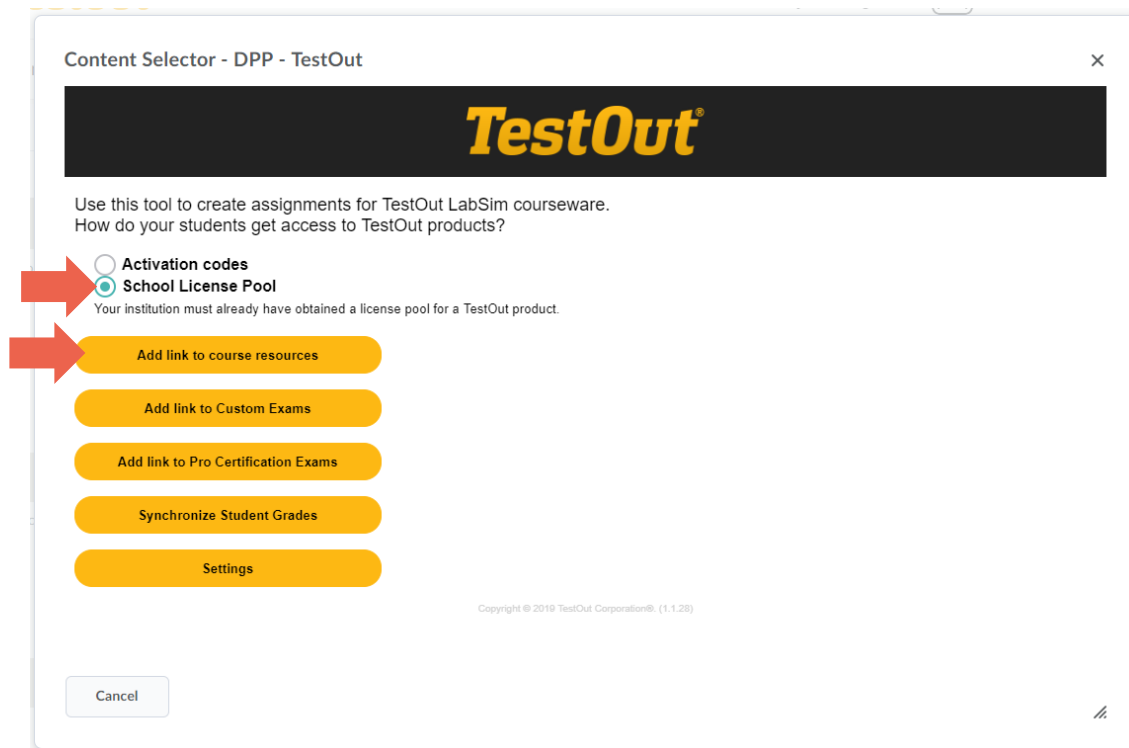
If students obtain an activation code (purchased through TestOut or through a bookstore), select the *Activation Codes* and then insert the ISBN of the product you will be using for the course.

Press *Add Assignments for Course Items*.

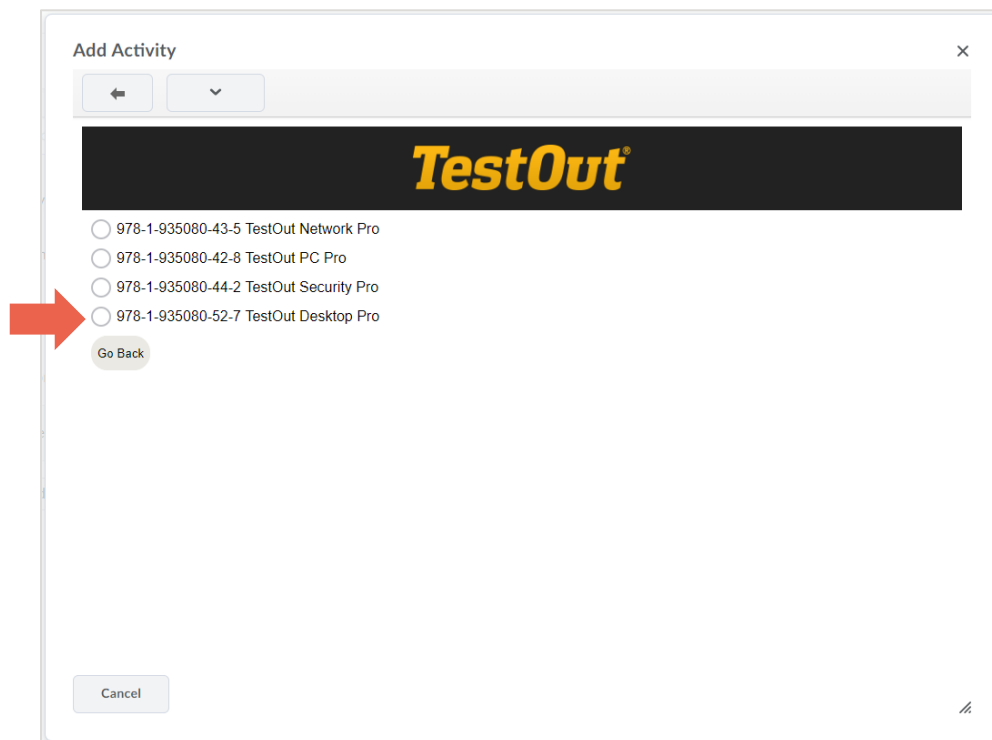


School License Pool

If the school purchases a license pool, select the *School License Pool* and then press *Add link to course resources*.



Select the product that you are using in this course.



At this point, both methods lead you to an outline of the product you are linking to.

First, the first time that you create links for a course, assure that you are linking to the correct version of your product.

Next, select the chapter you wish to link to and the resources within that chapter will appear on the right-hand side.

Select a Section Heading or resource to create an assignment link for each selected item.

Tip: To select all the resources of a specific type within a section (or unselect them), click the icons on the far right.

Click *Continue*.

Content Selector - DPP - TestOut

TestOut®

Selected Product:
TestOut Desktop Pro Plus (978-1-935080-64-0)
 English (United States) 5.0.16 [Select Different Version](#)

Select the resource for which you wish to create assignments.

Chapter	Common Office Features
0.0: Getting Started Information	<input checked="" type="checkbox"/> 3.1 Getting Started with Office
1.0: Online Essentials	<input type="checkbox"/> 3.1.1 Introduction to Office Applications
2.0: Computer Essentials	<input type="checkbox"/> 3.1.2 Learning Office Applications
3.0: Common Office Features	<input type="checkbox"/> 3.1.3 The Ribbon
4.0: Microsoft Word	<input type="checkbox"/> 3.1.4 Beyond the Ribbon
5.0: Microsoft Excel	<input type="checkbox"/> 3.1.5 Backstage View Options
6.0: Microsoft PowerPoint	<input type="checkbox"/> 3.1.6 Lab Types
7.0: Microsoft Access	<input type="checkbox"/> 3.1.7 Common Office Application Features
8.0: Microsoft Outlook	<input type="checkbox"/> 3.1.8 Desktop vs. Web Applications
A.0: Desktop Pro Practice Exams	<input checked="" type="checkbox"/> 3.1.9 Skills Lab: Get Started with Office
B.0: MOS 2016 Practice Exams	<input checked="" type="checkbox"/> 3.1.10 Challenge Lab: Get Started with Office
	<input type="checkbox"/> 3.2 Customizing Views and Options
	<input type="checkbox"/> 3.2.1 Document Views
	<input type="checkbox"/> 3.2.2 Customizing Toolbars and Ribbons

Go Back Continue

Cancel

On this next page, you will see a summary of the links that you are creating.

To create a link without a gradebook column, uncheck the box next to the assignment. Click *Continue*.

Please Note: Section Headings are not graded and therefore automatically unchecked.

Content Selector - DPP - TestOut

TestOut

TestOut Desktop Pro Plus (978-1-935080-64-0)
English (United States) 5.0.16

The following graded or ungraded assignments will be created in the course. If an assignment should not be graded please remove the check mark next to it.

☐

3.1 Getting Started with Office

☒

3.1.9 Skills Lab: Get Started with Office

☒

3.1.10 Challenge Lab: Get Started with Office

☒

Publish assignments on creation

Go Back

Continue

Navigating back to your BrightSpace course, you will see the links have been added to your module.

To access the LabSim courseware, click the created link.

The screenshot shows the TestOut DPP interface. At the top, there's a navigation bar with icons for grid, mail, chat, bell, and user profile (Cameron Christensen). Below it, a secondary navigation bar contains links for Content, Grades, Class Progress, Course Tools, and Help.

The main area is titled "Table of Contents". On the left, there's a sidebar with a search box and a list of items: Overview, Bookmarks, Course Schedule, Table of Contents (selected), and Module #1. The "Table of Contents" item has a count of 3 next to it. Below the sidebar, there's a button labeled "Add a module...".

The "Table of Contents" section displays a list of modules. Under "Module #1", there are three items listed, each with a red box highlighting its title:

- 3.1 - Getting Started with Office**: External Learning Tool, status icon ✓
- 3.1.9 - Skills Lab: Get Started with Office**: External Learning Tool, status icon ✓
- 3.1.10 - Challenge Lab: Get Started with Office**: External Learning Tool, status icon ✓

At the bottom of the page, there's a footer with copyright information: © 2020 Pearson Education, Inc. All rights reserved. | Terms & Conditions

Activation TestOut Courseware

Clicking on a link to access a LabSim resource the first time will give you a different experience based on your role within the course.

Admins & Instructors

Admins & Instructors will be given a license to the product automatically when they click on a link for the first time.

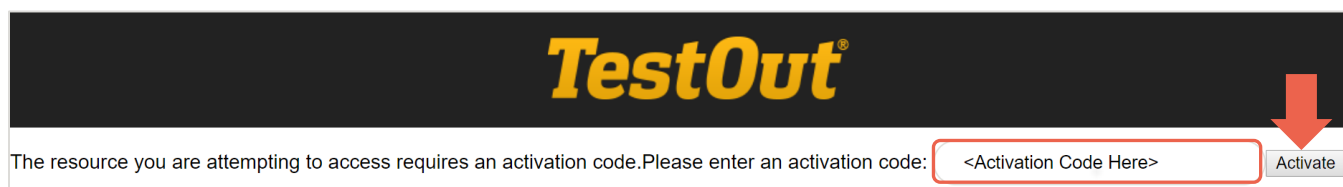
Students

The student activation experience will be based on your licensing method selection setting up the links through the plugin.

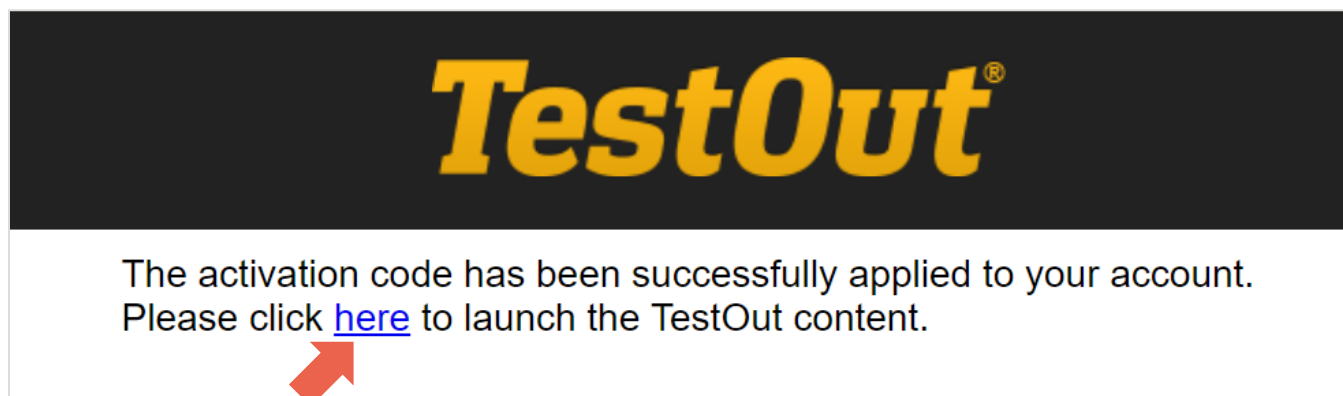
For schools purchasing a multi-user license, students will be given immediate access to the product and your license pool will be deducted one license.

If the student purchases/receives an activation code and has not used it to create an account, they will see the screen below.

Students will input the activation code and press Activate.



Once the product has been activated, click *here* to launch the course or go back.



Student Grades Returning to BrightSpace

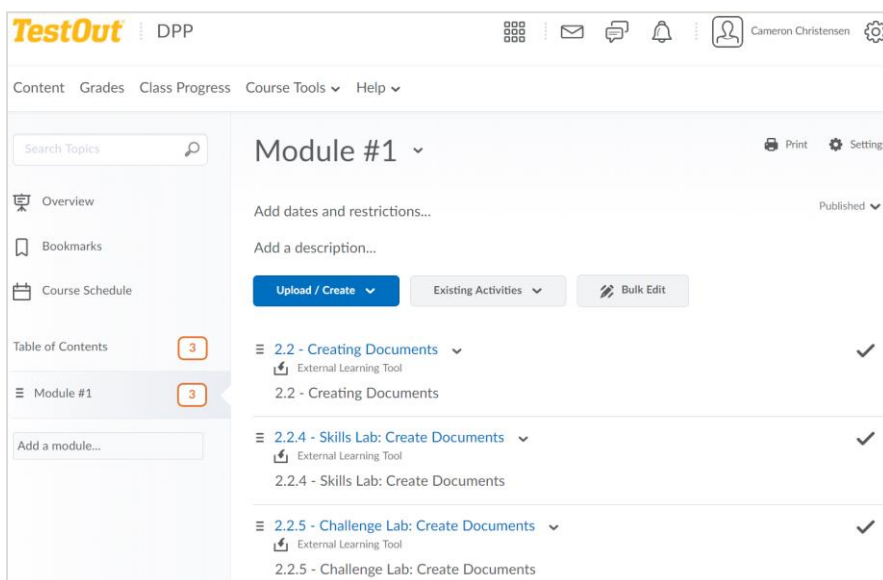
When an assignment link is created using the Plugin, a BrightSpace gradebook column is also created.

When a student clicks on a link and completes a LabSim resource, that score will be transferred to BrightSpace within 1-2 minutes.

The **latest score** will be passed to Brightspace. If your schools wants to only receive the **highest score** in your Brightspace gradebook, please contact your TestOut representative.

Note: There is a one-to-one relationship between the link and the gradebook column. A student must click on each link for LabSim to know where the score should be placed in the BrightSpace gradebook (even if the resource has been completed prior inside of LabSim).

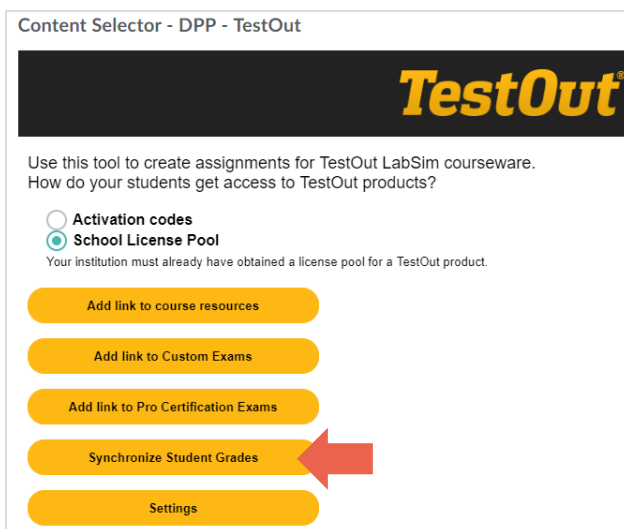
For example, on the screen below, if a student clicks on and completes the lab 2.2.4 and goes on to complete 2.2.5 without returning to Brightspace and clicking on that link, only the score for 2.2.4 will come back to the Brightspace gradebook if the instructor doesn't use the Sync score button.



If an instructor of a course would like to insure that their gradebook is up to date, instructors can access the Plugin through *Course Builder* and press the *Synchronize Student Grades* button.

This will go grab all scores for all students in that instructors' classes, regardless of if the students clicked every link.

Note: Only grades achieved in LabSim after the Brightspace course start date will be sent to Brightspace. If your Brightspace class does not have a start date, the score sync will not work.



Once in the LabSim Grade Synchronization Center, you can Synchronize Student Grades by pressing the button. After you press the button, you will see the request as *Submitted*. You will also see a history of previous updates.

Note: If you have set due dates on any of your created Brightspace assignment, the sync score will not sync grades obtained in LabSim outside of those due dates.

Content Selector - New Plugin Test - TestOut

Welcome the the LabSim Grade Synchronization Center.

If your student clicks every assignment link you've included in your Brightspace course, the grades should synchronize automatically but to ensure that your grades are up to date, we have provided an instructor grade synchronize button. Clicking the button below will check for grades achieved in LabSim within the Brightspace courses beginning and end date. Grades passed back will reflect the latest or highest grade a student has achieved on an assignment based on your configuration with your TestOut contact.

Go Back
Synchronize Student Grades

Status and History of Grade Synchronization requests

View the status of your grade sync or a recent history of past grade synchronization requests below.

Request time	Current Status as of	Updates
Tue, Dec 4, 2018 4:09 PM	Submitted	Tue, Dec 4, 2018 4:09 PM 0
Mon, Dec 3, 2018 1:55 PM	Completed	Mon, Dec 3, 2018 1:57 PM 1

Cancel

Once the requests starts to process, you will see the current class that is being processed in the Current Status column. You will see this check all classes in which you are assigned as the instructor (including those you don't use TestOut in).

The updates column tells you how many grades have been updated. The final column tells you the progress of the sync (Top bar=overall progress, bottom bar=progress within the current course).

Note: The sync score button only updates scores that have obtained during Brightspace class start and end date.

Note: The sync score button respects any assignment due dates. If an assignment was completed after the due date, it does not update the score in the Brightspace gradebook.

Content Selector - New Plugin Test - TestOut

Welcome the the LabSim Grade Synchronization Center.

If your student clicks every assignment link you've included in your Brightspace course, the grades should synchronize automatically but to ensure that your grades are up to date, we have provided an instructor grade synchronize button. Clicking the button below will check for grades achieved in LabSim within the Brightspace courses beginning and end date. Grades passed back will reflect the latest or highest grade a student has achieved on an assignment based on your configuration with your TestOut contact.

Go Back
Synchronize Student Grades

Status and History of Grade Synchronization requests

View the status of your grade sync or a recent history of past grade synchronization requests below.

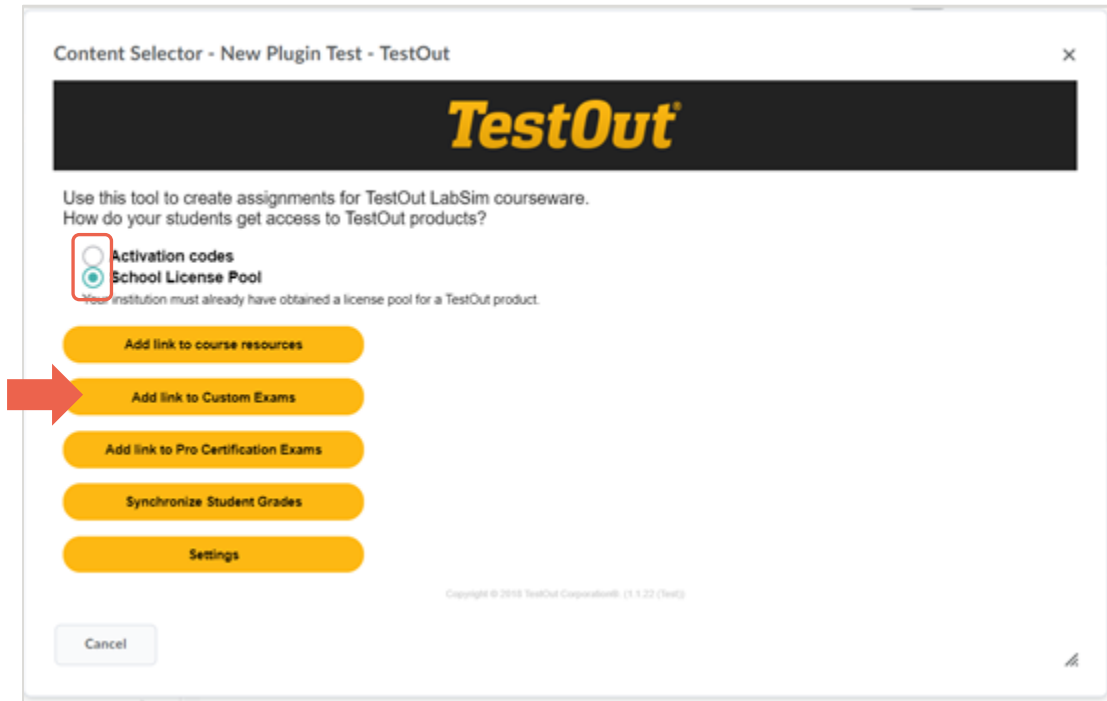
Request time	Current Status	as of	Updates
Tue, Dec 4, 2018 4:09 PM	Check course 197 Testin Course 6/14/2018 6:30:51 PM	Tue, Dec 4, 2018 4:09 PM	0
Mon, Dec 3, 2018 1:55 PM	Completed	Mon, Dec 3, 2018 1:57 PM	1

Cancel

Linking to a Custom Exam

To create a link for a Custom Exam, access the Plugin and choose the licensing method your school uses.

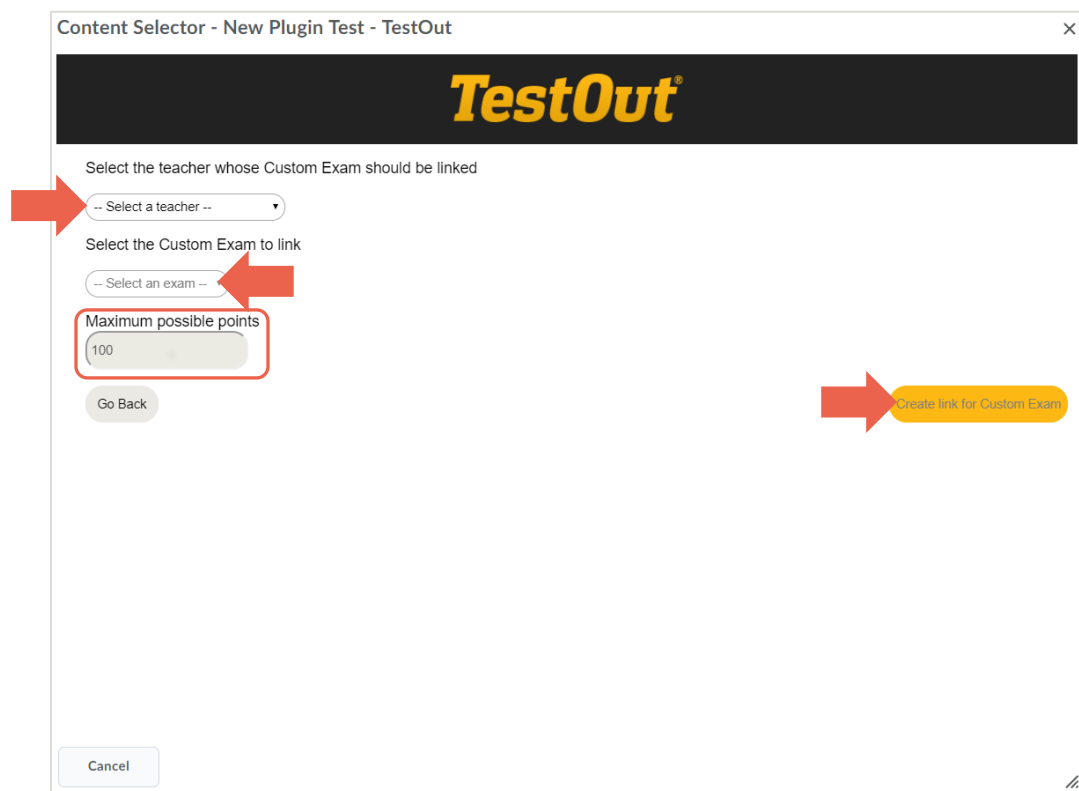
To add an assignment link to a Custom Exam inside of LabSim, click on the *Add link to Custom Exams*.



First, select the teacher who created the custom exam. Next select the Custom Exam.

Then select the number of points that you would like the Custom Exam to be worth inside of the BrightSpace gradebook (*Please note, this will not change the value of the Custom Exam inside of LabSim, only BrightSpace*).

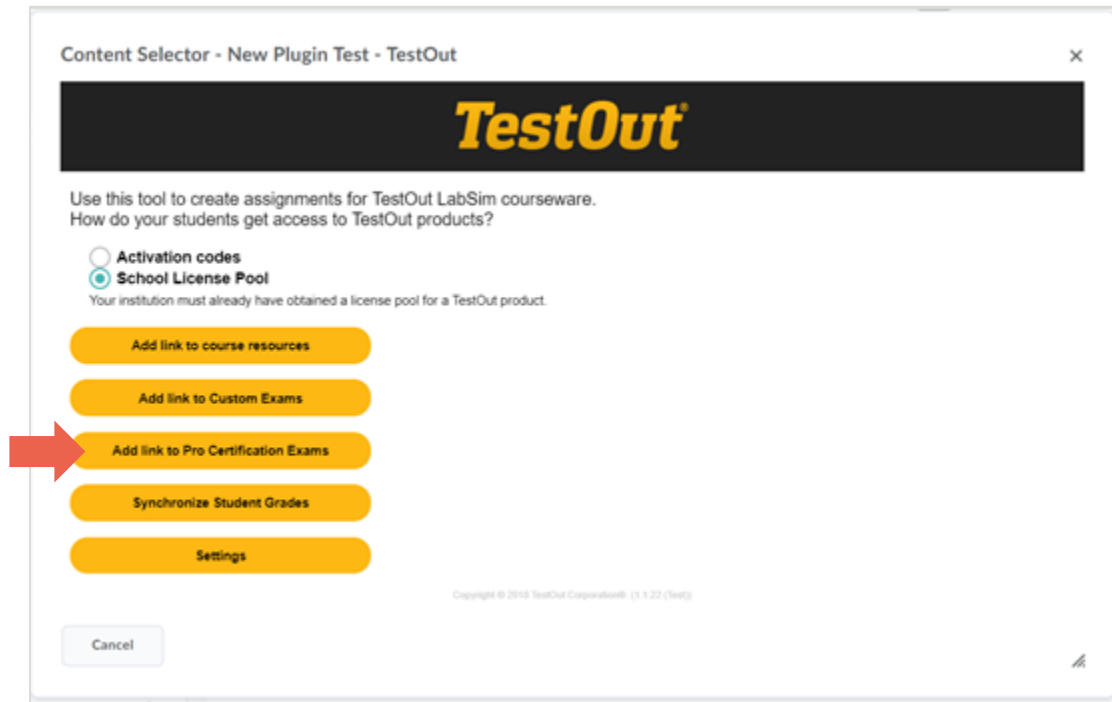
Click *Create link for Custom Exam* and the link will be placed into the course content.



Linking to a TestOut Pro Certification Exam

To create a link for a TestOut Pro Certification, access the Plugin and choose your school's licensing method.

To add a link to a TestOut Pro Certification Exam, click on *Add link to Pro Certification Exams*.



Select the Pro Certification you want to create a link for and then select the number of points that you would like the Pro Certification to be worth inside of the BrightSpace gradebook (*Please note this will not change the value of the Pro Certification inside of LabSim*).

Click *Create link for Pro Certification Exam*.



Appendix A: Brightspace Security Settings Details

Security Setting	LabSim Use
Send tool consumer information to tool provider	Pass Consumer Key/Secret and other parameters associated with the tool consumer to LabSim (tool provider) so we will let a user access the system through Brightspace.
Send context information to tool provider	Tells LabSim who you are and that you are coming from Brightspace
Send course information to tool provider	Tells LabSim information on what school you are so that we can associate new users to the correct LabSim school. And passes class information to LabSim so we can create and associate the user to the correct class.
Send LTI user ID and LTI role list to tool provider	LTI User information
Send user name to tool provider	User information, including role (instructor/student). Create accounts in LS
Send user email to tool provider	LabSim uses user emails as a part of account creation/linking an existing account. Also used for support as a distinguishing aspect.
Send system username to tool provider	LabSim uses this D2L information to track and sync grades back to Brightspace.
Send system Org Defined ID to tool provider	LabSim uses this information to track and sync grades back to Brightspace.
Send system role to tool provider	Information LabSim uses to create an account and assign a LabSim role to an account (instructor or student role)
Send link title to tool provider	Used to direct the user to the correct resource in LabSim.
Send link description to tool provider	Used to direct the user to the correct resource in LabSim.

Appendix B: Brightspace Scopes Details

Restrictive Scopes:

content:modules:read,write content:toc:read core:*:* grades:gradeobjects:read,write
grades:gradevalues:read,write users:userdata:read

API Post	What it does
GET /d2l/api/lp/1.9/users/{userId}	Gets details about a user
GET /d2l/api/lp/1.0/users/whoami	Tells LabSim who is running the plugin
GET d2l/api/lp/1.8/enrollments/myenrollments	Tells LabSim which courses are they enrolled in
GET /d2l/api/le/1.12/lti/link/{orgUnitId}/	Tells LabSim the links in a course
GET /d2l/api/le/1.12/{orgUnitId}/grades/	Tells LabSim the gradebook columns for a course
GET /d2l/api/le/1.8/{orgUnitId}/grades/{gradebookcolumn}/values/	Tells LabSim grade values for a gradebook column
GET /d2l/api/lp/1.9/courses/{orgUnitId}	Tells LabSim course details
GET /d2l/api/le/1.12/{orgUnitId}/calendar/events/	Tells LabSim course start date/end date
POST /d2l/api/lp/1.9/{orgUnitId}/grades/	Create grade column
PUT /d2l/api/le/1.9/{orgUnitId}/grades/{columnId}/values/{userId}	Update grades
GET /d2l/api/le/1.5/{orgUnitId}/content/toc	Gets TOC for the course
POST /d2l/api/le/1.12/lti/link/{orgUnitId}	Create an LTI link
POST /d2l/api/le/1.12/lti/quicklink/{orgUnitId}/{ltiLinkId}	Create a quick link to LTI link
POST /d2l/api/le/1.12/{orgUnitId}/content/modules/{moduleId}/structure/	Creates a topic