CodeLab-In-Canvas:
Instructor Manual

OVERVIEW:

CodeLab now offers a tight integration with Canvas. That means that once set up, students and instructors access and experience CodeLab entirely and only in the Canvas browser window. In particular, students do not access CodeLab through the standard CodeLab client at all, and instructors have almost no need to do so either.

CodeLab-In-Canvas observes the "Canvas way of doing things" as much as possible.

CodeLab-In-Canvas must be set up separately for each Canvas course that uses it.

Once it is set up, students interact with CodeLab just as the would with any Canvas assignment. They click on the assignment and they see the CodeLab workbench with its navigations tools, instructions, submission area, and status information. There is no Table of Contents, nor is there any hierarchical arrangement of exercises. A CodeLab-In-Canvas assignment is just a sequence of CodeLab exercises selected by the professor. There is a status bar so that the student can see their progress through the assignment. When the student clicks on the assignment, they are brought to the first non-correct exercise in the sequence. Students work with the exercises just as they do in the standard, stand-alone CodeLab client—they click submit and the RESULTS tab is created with all of the usual feedback from CodeLab.

Important Note: Students do NOT register directly for CodeLab, they do not need a "section access code" nor do they login to CodeLab—essentially, they never go to a "turingscraft.com" URL.

In Canvas, instructors associate points with assignments. CodeLab updates the Canvas gradebook and tells Canvas the percentage of exercises that are correct in a given assignment. This percentage is multiplied by the maximum number of points associated with the assignment, resulting in the points given for the assignment. As the student completes more exercises in an assignment, the assignment score for that student increases. For example, if an assignment is worth 6 points and has 30 CodeLab exercises associated with it, and the student has successfully finished 20 of these exercises, the student's score for the assignment would be 4.

GETTING HELP: We are very eager to support CodeLab-in-Canvas. If you have any questions or requests, send email to:
**canvas@turingscraft.com**

OVERVIEW CONTINUED: SETUP

To set up a CodeLab-In-Canvas course, the instructor will need to:
(1) Make sure that the CodeLab-In-Canvas third party app is available in their school. This is most typically arranged by a local Canvas administrator, but in some schools the instructor may take on that role themselves. The way to accomplish this is described in the CodeLab in Canvas Admin Manual.
(2) Obtain a CodeLab instructor account from Turing's Craft.

Once the above are satisfied, to set up a CodeLab-In-Canvas course, the instructor must go through these steps:

(1) A separate CodeLab section must be created. This section will be uniquely associated with the Canvas course involved. It should have a clear course title, course number, and section number.
(2) It is wise for the instructor, before doing much on the Canvas side, to access this new CodeLab section on the CodeLab side and use the Table Of Contents editor to create groups of exercises that will become the assignments in Canvas. This can be done anytime during the semester, but it is a good idea to do at least the first one or two assignments at the start. This basically entails creating topics labeled as something like "Assignment 1", "Assignment 2" (or something readily identifiable) and then populating them with CodeLab exercises that would be part of the assignment. These assignment groupings should be flat—just sequences (ordered appropriately) of exercises. Doing this will make setting up assignments in Canvas much easier.
(3) The instructor then needs to create their Canvas course and load it, and associate it with CodeLab. The following notes describe that process:
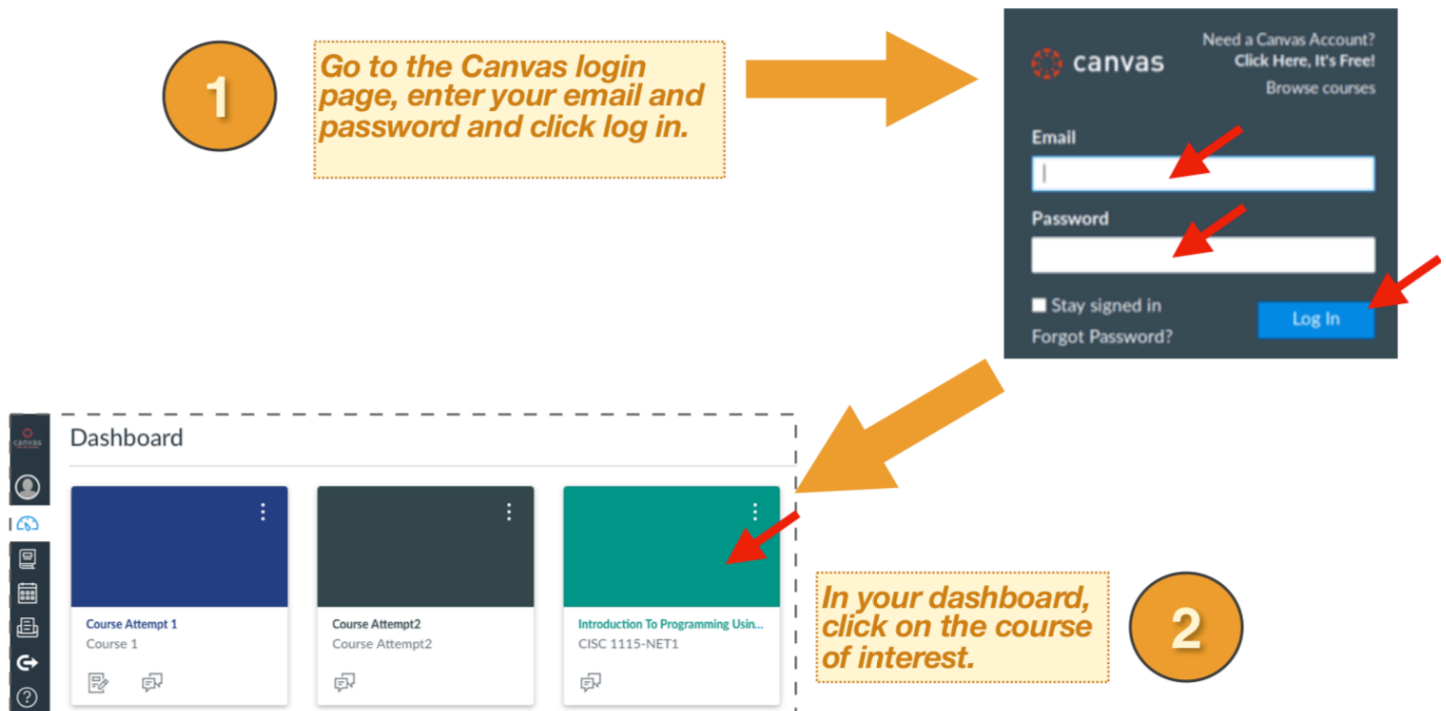
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CISC 1115-NET1 › Modules

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Announcements
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Your course is now displaying.

View Progress   + Module

▾ Getting Started
  📄 Boilerplate and Early Days
  📄 Two Programs

▾ Simple Calculations
  📄 Integers And Their Operations
  📄 Variables
  📄 Assignment Operators

▾ Input and Output
  📄 Input
  📄 Output

Outcomes
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Go to Modules and click + in one of the modules to add an Canvas Assignment.

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▾ Getting Started
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  📄 Two Programs

▾ Simple Calculations
  📄 Integers And Their Operations
  📄 Variables
  📄 Assignment Operators

▾ Input and Output
  📄 Input
  📄 Output

5 Click on "[New Assignment]"

Add [Assignment ▼] to Getting Started

📝 Select the assignment you want to associate with this module, or add an assignment by s

[New Assignment]
Assignments

Assignment Name: [   ]

Indentation: [Don't Indent ▼]

6 Provide a name, choose an indentation level...

Assignment Name: [CL: Displaying Messages]

Indentation: [Indent 1 Level ▼]

[Cancel] [**Add Item**]

7 ... and click Add Item

⋮⋮ ▼ Getting Started ✓ [+] [⋮]

⋮⋮ 📄 **Boilerplate and Early Days** ✓ ⋮

⋮⋮ 📄 **Two Programs** ✓ ⋮

⋮⋮ 📝 **CL: Displaying Messages** 🚫 ⋮

And now we have third item in the Getting Started module: an assignment.

8 Click the assignment title

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[🚫 Publish] [✏️ Edit] [⋮]

No Content

9 Click Edit

9

Announcements

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People

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Syllabus

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CL: Displaying Messages

HTML Editor

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0 words

Points   [0]

Assignment Group   [Assignments   ▲▼]

Display Grade as   [Points   ▲▼]

☐ Do not count this assignment towards the final grade

Submission Type   [No Submission   ▲▼]

Group Assignment ☐ This is a Group Assignment

Peer Reviews   ☐ Require Peer Reviews

10 *Scroll down as needed to Submission Type and click*

11

Select External Tool

Submission Type

✓ No Submission
Online
On Paper
External Tool

Group Assignment

12

Click Find

Submission Type

External Tool

External Tool Options

Enter or find an External Tool URL

🔗 | http://www.example.com/launch | Find

☐ Load This Tool In A New Tab

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Click CodeLab and then Select

Configure External Tool ☒

🔗 Select a tool from the list below, or enter a URL for an external tool you already know is configured with Basic LTI to add a link to it to this module.

Analytics Beta
Analytics pages for Canvas

Canvas Data LTI
Portal for managing hosted data credentials

CodeLab
CodeLab is the web-based interactive programming exercise system for intro programming classes in Python, Java, C++, C, JavaScript, C#, VB and SQL

Roll call

Cancel | Select

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Submission Type

External Tool

External Tool Options

Enter or find an External Tool URL

🔗 | https://codelab.turingscraft.com/code | Find

☐ Load This Tool In A New Tab

15 *Then Save or Save&Publish*

Cancel | Save & Publish | Save

16 *When you first enter the assignment you will have to authenticate yourself!*

This login-authentication only happens the first time you ever access CodeLab via your Canvas Account.

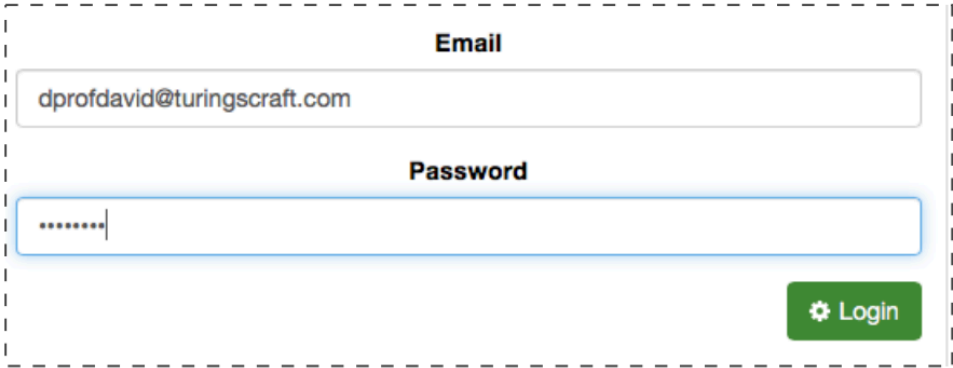CL: Displaying Messages

CodeLab
by turingscraft

We've noticed this your first time using CodeLab with this LMS. Please login below to verify your account. If you do not have an account you will need to register before proceeding. You will need to reload the assignment after verifying your account.

CodeLab Sign In

Email

Email

Password

Password

⚙ Login

Email

dprofdavid@turingscraft.com

Password

••••••••

⚙ Login

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Then you need to choose the CodeLab section you wish to associate with this Canvas course.

This will only have to be done once, the first time you are in this course trying to set up an assignment.

Subsequent assignment setups won't have this step.

CL: Displaying Messages

CodeLab
by turingscraft

Please select a CodeLab section to associate with your Canvas course

> **Winter 2019**

> **Fall 2018**

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Use the standard CodeLab Course List area (aka "Lobby") to select the desired section by clicking Go.

CL: Displaying Messages

CodeLab
by turingscraft

Please select a CodeLab section to associate with your Canvas course

> **Winter 2019**

> **Fall 2018**

	CourseNNN	Course #	Title	Section #	Instructor	Language	Section Access Code
Go	51514	cs1	Generic C++ CodeLab	dev	arnow	C++	TCAB-25453-MGMB-32
Go	51523	cs1	Generic C# CodeLab	dev	arnow	CSHARP	TCAB-25462-TGMB-32
Go	51532	cs1	Generic C CodeLab	dev	arnow	C	TCAB-25471-YGMB-32
Go	51541	cs1	Generic JAVA CodeLab	dev	arnow	JAVA	TCAB-25480-GHMB-32
Go	51550	cs1	Generic Javascript CodeLab	dev	arnow	ANY	TCAB-25489-SHMB-32
Go	51559	cs1	QA CODELAB	dev	arnow	C++	TCQA-25498-

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Once you've done all that "first time stuff", you are in the Assignment Creator— and that is where you'll go directly in the future in this course when you click on a CodeLab-associated Canvas assignment.

CL: Integers

Assignment Creator

Title:

[   ]

▼ ⊟ JAVA CODELAB
    ☐ 60154
    ☐ 60066
    ☐ 60114
    ▶ ⊞ NEW EXERCISES
    ▶ ⊞ CODELAB WARMUP
    ▶ ⊞ IMPERATIVE PROGRAMMING
    ▶ ⊞ OBJECT ORIENTED PROGRAMMING
    ▶ ⊞ ADVANCED TOPICS
    ▶ ⊞ GRAPHICS AND GUI
▶ ⊞ BASEMENT
▶ ⊞ REPOSITORY
▶ ⊞ TRASH
▶ ⊞ BLACKHOLE

Submit

Selected Exercise(s):

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Here you can click on individual exercises and entire topics for inclusion in the assignment exercise sequence. When you click on an entire topic, all the exercise "leaves" are added in left-to-right order into the selected exercise sequence.

You can also set a solution-view date.

IMPORTANT: you cannot set the due date here-- the due date is determined by setting the Canvas due date.

IMPORTANT: the Canvas due date defines not only the due date but the FREEZE date. After the due date, the student can work on and practice on CodeLab exercises in an assignment but they will not count for the assignment. This is a result of the way Canvas handles late work.