

UBC Faculty of Forestry & Environmental Stewardship

Using PrairieLearn for Adaptive Learning in Forestry Courses

PrairieLearn is an adaptive learning platform powered by machine learning algorithms. Compared to Canvas quizzes, PrairieLearn's primary advantage lies in its ability to present varied versions of a question to different students, allowing different practice opportunities (see the screenshot below). Additionally, the platform supports auto-grading for questions whose answers can be determined through equations, saving valuable time for teaching teams.

The screenshot displays two side-by-side question cards from the PrairieLearn platform. Both cards are titled 'Question 5: Ball trajectory'. The left card contains the text: 'Suppose a ball is thrown from a level surface at a 70.8° angle with a velocity of 7.9 m/s. How far will the ball travel?'. Below the text is an input field with a unit 'm' and a '0%' indicator. At the bottom of the card are two buttons: 'New variant' (highlighted with a red box) and 'Grade'. The right card contains the text: 'Suppose a ball is thrown from a level surface at a 53.9° angle with a velocity of 3.2 m/s. How far will the ball travel?'. It also has an input field with a unit 'm' and buttons for 'New variant' and 'Grade'. A red arrow points from the 'New variant' button of the left card to the right card, illustrating the adaptive nature of the platform.

Note that PrairieLearn is not currently supported by UBC centrally, and may incur costs. If you have questions or would like a free trial in Forestry, please contact the Forestry Teaching & Learning Support Team at forestry.tls@ubc.ca. This tip-sheet is a preliminary guide to help teaching teams get acquainted with the platform.

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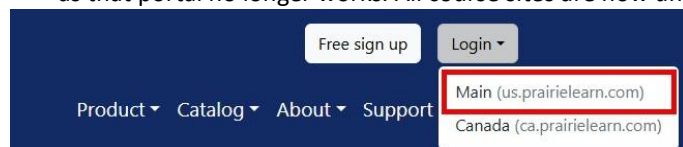
A. Getting Started

Requesting a Course/Sandbox Site

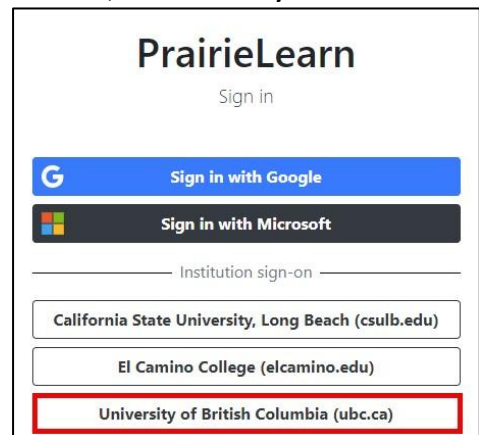
- Email forestry.tls@ubc.ca with the course code and title.
- We will coordinate with PrairieLearn to set it up for you. This process may take ~1 week.

Instructor & TA Access

- Once the course site is created, we will add instructors and TAs using UBC CWL, and keep you posted.
- To log into PrairieLearn, visit <https://www.prairielearn.com/>, and choose **Main** under Login. Please do not click Canada as that portal no longer works. All course sites are now under the Main (i.e., U.S.) portal.



- Next, click **University of British Columbia (ubc.ca)** and you'll be directed to log in with your CWL.



- On the dashboard, you will be able to see the course(s) with instructor access. By clicking on the course title, you will go into the course site. By default, each course site has a Template Course instance for you to develop content.

| Courses with instructor access | |
|---|---------------------------------|
| BEST 402: Industrial Ecology | Template Course |
| EXCL 200: Excelling in Life Test Course | Template Course |

- If you need to create a new instance for a specific term or section (e.g., 25 W1, Section 101), click + Add course instance, then input the required info.

| Course instances | | | | | + Add course instance |
|---------------------------------|------------------------|---------------------------|---------------------------|----------|---------------------------------------|
| Long Name | CIID | Earliest Access Date | Latest Access Date | Students | |
| Template Course | TemplateCourseInstance | 2014-01-19 00:00:01 (PST) | 2400-05-13 23:59:59 (PDT) | 0 | |

- If you need to remove or duplicate an instance (e.g., from the template or previous term), contact the TLS Team.

Student Access

- Since PrairieLearn is not currently integrated with Canvas, it's recommended that the teaching team add the PrairieLearn assessment links to their corresponding assignments on Canvas. From there, students will be directed to access PrairieLearn. See the example in Section C for more details.
- When students log into the course site on PrairieLearn with their CWL, they should be automatically added as students.

Planning for Creating Questions & Assessments

- PrairieLearn uses python and HTML for question and assessment setup. The TLS Team is happy to help convert existing Canvas quiz questions into PrairieLearn, or assist in developing new ones.
- The process of brainstorming, developing, and testing may take some time (e.g., 2–4 weeks), depending on question complexity and quantity.
- So, we recommend the teaching team planning ahead to allow sufficient time for setup and refinement.
- For more info, see Sections B and C below.

Notice for Syllabus/Announcement

- If you decide to use PrairieLearn in your course, consider informing students with a notice like this.

Assignments and assessments in this course involve the use of PrairieLearn, which is an advanced online problem-driven learning platform. Students need to log in to PrairieLearn through UBC CWL Authentication.

Personal information is collected under the authority of section 26(c) of the Freedom of Information and Protection of Privacy Act (FIPPA), and is used for accessing, managing, and evaluating course assignments and assessments. All data are stored and accessed securely as noted in PrairieLearn's privacy policy (<https://www.prairielearn.com/legal/privacy>).

Please be aware that the data will be retained outside of Canada, and stored in the United States.

If you have questions or concerns, please reach out to the teaching team.

B. Creating & Managing Questions

Question Types

- PrairieLearn supports a variety of dynamic question types, including multiple choice, numeric, formula-based, fill-in-the-blank, short-answer, coding, matrix, and interactive graph questions.
- Visit [this webpage for question templates and more info](#).

Question Components

- For each dynamic question in PrairieLearn, there are 2 main components: base and variants (see the example below).

Base:

A forester measures a tree with a diameter at breast height (DBH) of d cm. Using the species-specific equation for estimating tree volume: $V = k \times d^b$ where k and b are species-dependent coefficients.

Variants:

The tree species, DBH, and equation can be designed as variants. So, students will see questions like these:

- A Douglas-fir has a DBH of 42 cm. Given that $k=0.25$ and $b=1.8$, estimate the tree volume.
- A western red cedar has a DBH of 58 cm. Given that $k=0.30$ and $b=1.6$, estimate the tree volume. - etc.

Migrating Questions from a Canvas Quiz to PrairieLearn

- Contact the TLS Team in advance for question migration.
- Note that the migrated questions will remain static (i.e., no variants) by default. The codes for these questions will be available for further editing in PrairieLearn.

- It'd be a good idea for teaching teams to review questions and design variants ahead of time (see example above).

Developing New Questions

- The TLS team is happy to collaborate with the course's teaching team and create all questions and assessments beforehand. The teaching team can draft questions in a Word document, highlighting potential variants (e.g., numeric values, datasets, equations, maps, etc.).
- If needed, the TLS Team can help input the questions into PrairieLearn, incorporating coding for adaptability.
- The teaching team can review, test, and refine the questions as needed.
- We encourage the teaching team to practice setting up questions and get familiar with PrairieLearn to better support students. If the Instructors or TAs wish to make changes or add new questions, they can follow the steps given below.
- Click on the **Questions** tab, then **Add Question**. Provide a title, and a Unique ID (**QID**) for your question. PrairieLearn will notify you if the ID has already been used.

The screenshot shows the PrairieLearn interface for creating a new question. The top navigation bar includes 'Issues', 'Questions' (highlighted), 'Sync', 'TemplateCourseInstance', 'Assessments', and 'Gradebook'. Below this is a secondary bar with 'Course Instances', 'Files', 'Issues', 'Questions' (highlighted), 'Settings', and 'Staff'. A third bar contains 'Columns', 'Clear filters', and a red-outlined 'Add Question' button. The 'Create question' form below has a 'Title' field, a 'Question identifier (QID)' field, and a 'Start from' dropdown menu. The dropdown shows 'Empty question' as the selected option. At the bottom of the form are 'Cancel' and 'Create' buttons.

- Select whether you would like to start with an empty question or a **basic template**. The template provides a basic structure for the question.html and server.py files.
- Choose the from the list of templates that aligns closest to the format of the question you would like to implement. This way most of the randomization logic will be pre-implemented. Here are the different template options:

The screenshot shows the 'Template' dropdown menu open in the question creation form. The dropdown list includes the following options: 'Checkbox: feedback on each response', 'Checkboxes: random prompt', 'Figure: dynamic image', 'Integer input: random parameters and correct answer', 'Matrix component input: random graph', 'Matrix input: random parameters and correct answer', and 'Multiple choice: images as choices'.

- To change the title of the question at any time, edit the **info.json** file. Then choose a new name for the question.

- You can also modify the number of attempts and variants in the info.json file. To learn more about the different parameters you can specify, please visit [PrairieLearn Question Configuration](#)

The screenshot shows the 'Question New_1' configuration page. The 'Configuration' section is set to 'info.json'. The 'info.json' file content is displayed on the right, showing a JSON object with fields like 'uuid', 'title', 'topic', 'tags', and 'type'. A red arrow points to the 'title' field, which is 'Question Name'.

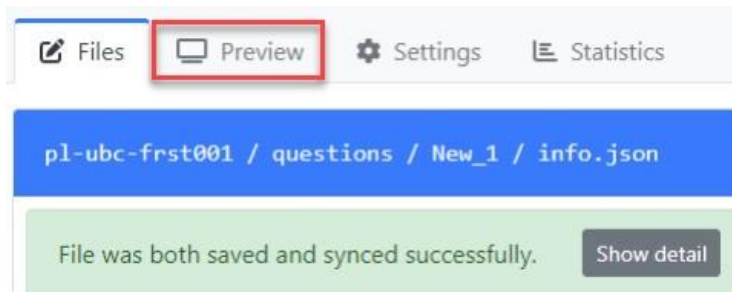
- Note: Save your changes in any file by clicking **Save and sync**.

The screenshot shows the 'Save and sync' button, which is highlighted with a red box.

- Click on **Files** and edit your question files to create your question

The screenshot shows the 'Files' section of the question configuration. It lists three files: 'info.json', 'question.html', and 'server.py'. Each file has an 'Edit' button. The 'Edit' button for 'question.html' is highlighted with a red box.

- The **question.html** file is a simple template where you create your question for students to see, using regular HTML with some special features like variables, input elements, Markdown for formatting, and LaTeX for equations.
- The **server.py** file, written in Python, generates different versions of the question by randomizing parameters and determining correct answers. It also handles the final preparation of the question, renders HTML output, parses student responses, and grades those responses based on specified criteria.
- The **server.py** file is also responsible for the question's Variants. Each time a question is loaded, it will populate it with sets of information pulled from the server.py file. This means that each attempt should produce a new **variant** that expands the utility of the question for practice or assessment.
- Server.py is the behind-the-scenes for a question. The [Elements for Writing Questions Guide](#) includes many examples of both templates and server files to use and edit.
- To view and test the question, click on **Preview**.



- Click on **Save & Grade** to evaluate the answer. Click on **New variant** to load a different variation of the question.
- For a full breakdown on creating PrairieLearn questions, check out the [Question Configuration Guide](#). Explore the [Elements for Writing Questions Guide](#) for all the question types available as well as samples for each.

C. Creating & Managing Assessments

Once the required questions are created, the teaching team can set up and manage assessments.

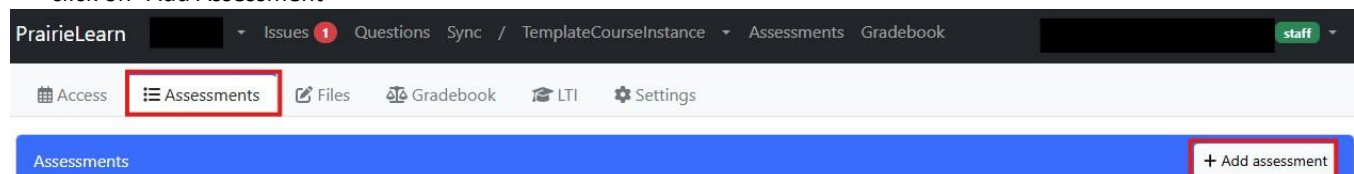
Assessment Types

- PrairieLearn offers 2 main types of assessments: Homework and Exam. Here is a table summarizing the main differences:

| Homework | Exam |
|--------------------------------------|--|
| Multiple variants | Single variant |
| Unlimited attempts | Limited attempts, possibly with decreasing points |
| Rewards repeated correct answers | Incentivizes a correct answer as early as possible |
| Fixed order | Shuffled order within question groups by default |
| Automatic feedback is always enabled | Automatic feedback can be disabled |

Setting Up Assessment

- In order to set up an Assessment on PrairieLearn, you will have to first navigate to the assessments tab in your course and click on “Add Assessment”



- Similar to question configuration, you will need to specify an assessment title, a unique Assessment ID (**AID**) and specify what type of assessment you would like to create this as. You can also specify which set you would like this assessment to belong to.
- Once the assessment is created, you can navigate to infoAssessment.json file and specify which questions you would like to include in this assessment. For more information on the different parameters you can specify in this file, please visit [PrairieLearn Assessment Configuration](#). Below is an example of a fully configured assessment:


```
{
  "uuid": "0221d22b-974e-48aa-889e-086aefa9ccf1",
  "type": "Homework",
  "title": "Lab 3",
  "set": "Labs",
  "number": "1",
  "allowAccess": [
    {
      "startDate": "2025-01-29T08:00:00",
      "endDate": "2025-02-07T23:59:59",
      "showClosedAssessment": true
    },
    {
      "uids": [
      ],
      "startDate": "2025-02-10T08:00:00",
      "endDate": "2025-02-10T23:59:59",
      "showClosedAssessment": true
    }
  ],
  "zones": [{
    "questions": [
      { "id": "Lab3Q1", "autoPoints": 30, "triesPerVariant": 100 },
      { "id": "Lab3Q2", "autoPoints": 18, "triesPerVariant": 100 },
      { "id": "Lab3Q3", "autoPoints": 32, "manualPoints": 20, "triesPerVariant": 100 }
    ]
  }]
}
```

Adding Assessment Link to Canvas

- Assessment links can be copied from PrairieLearn to provide direct access from the Canvas page for students. This Assessment link can be copied from “Settings” tab under any of the assessment.

The screenshot shows the 'Settings' tab for an assessment in PrairieLearn. The assessment is titled 'Lab 3' and is of type 'Homework'. It belongs to the 'Labs' set and is the first assessment in the set. The 'Student Link' field is highlighted with a red box and contains the URL: https://us.prairielearn.com/pl/course_instance/168253/assessment/2480034. The 'Settings' tab is also highlighted with a red box in the top navigation bar.

- Alternatively, you can provide the general student link from the **course instance** level settings tab and instruct the students to navigate to the correct assessment.

PrairieLearn FRST 231 - Issues Questions Sync / 2024W1 - Assessments Gradebook

Access Assessments Files Gradebook LTI **Settings**

Course instance settings

Long Name
2024 W1
The long name of this course instance (e.g., 'Spring 2015').

CIID
2024W1
Use only letters, numbers, dashes, and underscores, with no spaces. You may use forward slashes to separate directories. The recommended format is #a19 or #a112019. Add suffixes if there are multiple versions, like #a11honors.

Student Link
https://us.prairielearn.com/pl/course_instance/161786
This is the link that students will use to access the course. You can copy this link to share with students.

Save Cancel

[Edit course instance configuration in infoCourseInstance.json](#)

Make a copy of this course instance Delete this course instance

Lab 3 - Instructions and submission

Published Assign To Edit

1. This assignment with the instructions below does not require a submission and is here as a placeholder. Labs 1 to 5 are submitted directly via PrairieLearn and we will import grades here later.

Please note that PrairieLearn lab assignments will be released on the week they take place in the classroom, so if you don't have access to the links below, the lab is likely not available yet. Otherwise, follow these steps:

1. Go to the [Assessments](#) page in PrairieLearn and click on **Lab 3** and then again on the link that you see under the **Question** title to see the questions that you have to work on. Remember that every student will have a different set of numbers in all questions, so there will not be two answers that are identical in the entire class.
2. Solve the questions by hand on a blank sheet of paper. Do it neatly because you may require to upload a **JPG** image of some of our answers or procedures when indicated.
3. Enter your answers via the site described in step 1 above. You can click on the **Save only** button at the bottom of the page at any point so you don't have to submit the assignment in one sitting (be careful not to click on the **Save & Grade** button but if you do, no problem, you can use another attempt to complete it). Enter numerical questions directly on the boxes provided. For questions requiring a **JPG upload**, simply take a picture of the procedures or graphics for that question only and **name it exactly as PrairieLearn indicates as shown on the example below**.

Managing Assessment Availability

- In the infoAssessment.json file, the start and end dates and time in the box in the image below **must be edited by the teaching team** prior to the assessment start date to ensure the students have access to the assessment. If you have any questions or require clarification, please feel free to contact us.


```

1 {
2   "uuid": "76322f64-0638-4572-b657-f4e1bbb54255",
3   "type": "Homework",
4   "title": "Lab 5",
5   "set": "Labs",
6   "number": "5",
7   "allowAccess": [{
8     "startDate": "2025-02-24T08:00:00",
9     "endDate": "2025-03-28T23:59:59"
10  }],
11  "zones": [{
12    "questions": [
13      {"id": "Lab5Q1", "autoPoints": 13, "triesPerVariant": 100},
14      {"id": "Lab5Q2", "autoPoints": 5, "triesPerVariant": 100},
15      {"id": "Lab5Q3", "autoPoints": 3, "triesPerVariant": 100},
16      {"id": "Lab5Q4", "autoPoints": 3, "triesPerVariant": 100},
17      {"id": "Lab5Q5", "autoPoints": 1, "triesPerVariant": 100},
18      {"id": "Lab5Q6", "autoPoints": 5, "triesPerVariant": 100}]
19    ]
20  }

```

Granting Extensions

- To accommodate certain students with an extended deadline for their assessment, please update the infoAssessment.json file as follows:
- Add the extended deadline:** Include the new deadline in addition to the existing one.
- Specify CWLs:** List the Campus-Wide Logins (CWLs) of the students who are granted the extension under the uids field.
- With these modifications, the specified students will have until the extended deadline to submit their assessments, while all other students must adhere to the original end date.

```

1 {
2   "uuid": "63e27a30-29eb-44c3-994d-239dadbf7b7",
3   "type": "Homework",
4   "title": "Lab 4",
5   "set": "Labs",
6   "number": "1",
7   "allowAccess": [
8     {
9       "uids": ["CWL@ubc.ca"],
10      "startDate": "2024-10-08T08:00:00",
11      "endDate": "2024-10-25T23:59:59"
12    },
13    {
14      "startDate": "2024-10-07T08:00:00",
15      "endDate": "2024-10-18T23:59:59"
16    }
17  ],
18  "zones": [{
19    "questions": [
20      {"id": "Lab4Q1", "autoPoints": 8, "triesPerVariant": 100},
21      {"id": "Lab4Q2", "autoPoints": 30, "triesPerVariant": 100},
22      {"id": "Lab4Q3", "autoPoints": 10, "triesPerVariant": 100},
23      {"id": "Lab4Q4", "autoPoints": 18, "triesPerVariant": 100},
24      {"id": "Lab4Q5", "autoPoints": 8, "triesPerVariant": 100},
25      {"id": "Lab4Q6", "autoPoints": 8, "triesPerVariant": 100},
26      {"id": "Lab4Q7", "autoPoints": 18, "triesPerVariant": 100}]
27    ]
28  }

```

- In this example, any students specified under “uids” will have a deadline until 25th October, and everyone else will have a deadline till 18th October.

Submission with Late Penalty

- In order to allow students to submit an assessment after the deadline, but with a penalty, you can include a “credit” attribute to the Access control in infoAssessment.json. [Here is an example implementing this feature](#)

D. Grading Feedback & Analytics

Grading Options

- Prairielearn offers the option to automatically grade as well as manually grade responses submitted by the students. It is only possible to grade multiple choice and numerical responses submitted. **Any handwritten, descriptive or pictorial responses must be graded manually.**

Automatic Grading

- Questions must be specified as auto or manual graded while configuring the assessment under infoAssessment.json. Here is also where you specify how many points are awarded for a correct auto graded answer. For more information, please visit [Question specification under infoAssessment.json](#).

Manual Grading

- From your course’s Assessment Page, click on the assessment that you would like to manually grade:

Access

Assessments

Files

Gradebook

LTI

Settings

Assessments

| | | AID |
|--------------|--------------------|-------|
| Lab Handouts | | |
| LH1 | Sample Lab Handout | New_1 |
| Homeworks | | |
| HW1 | Lab 1 & 2 | lab_1 |
| HW2 | Lab 2 | Lab_2 |
| HW3 | Lab 3 | Lab_3 |
| HW4 | Lab 4 | Lab_4 |
| HW5 | Lab 5 | Lab_5 |

- Select “Manual Grading” from the top Menu bar

| | | | | | | |
|--------|-----------|-------|--------|-----------|----------------|----------------|
| Access | Downloads | Files | Groups | Questions | Question stats | Manual Grading |
|--------|-----------|-------|--------|-----------|----------------|----------------|

- Select the question that you would like to grade

| Homework 1: Manual Grading Queue | | | | | | | |
|----------------------------------|--------|-------------|---------------|----------------------|---------------------|-----------|---------------------------------------|
| Question | QID | Auto Points | Manual Points | Submissions to grade | Grading assigned to | Graded by | Actions |
| 1. Lab 1 & 2 | Lab1Q1 | 8 | 8 | 1 / 1 | (1 unassigned) | | Grade next submission |

[← Back to Homework 1 Overview](#)

lab_1 / Question 1: Lab 1 & 2

| Instance | Name | UID | Grading status | Assigned grader | Auto points | Manual points | Percentage score | Graded by |
|-------------------------------------|----------------------------|-----------------|------------------|-----------------|-------------|---------------|------------------|-----------|
| <input type="checkbox"/> Instance 1 | Kumaravendhan Ravichandran | kravicha@ubc.ca | Requires grading | — | 0 / 8 | 0 / 8 | 0% | — |

- Select the **instance** of the student's attempt that you would like to grade
- On the right-hand side of the page, you will find a **Rubric pane**, click on the Rubric button to adjust the rubric for manually graded questions. Auto-points awarded by the auto grader can also be edited here at the grader's discretion.

Grading

Points ☒ Percentage

Manual Points: 0 / 8 [Rubric](#)

- ☐ 1 Draw histogram [+1]
- ☐ 2 Histogram has correct bin height [+2]
- ☐ 3 Draw frequency polygon line graph [+1]
- ☐ 4 Frequency polygon has correct y axis [+1]
- ☐ 5 Histogram is poorly drawn [-0.5]

Adjustment:

Auto Points: 0 / 8

Total Points: 0 / 16

Feedback:

Markdown formatting, such as **emphasis** or ``code``, is permitted and will be used to format the feedback when presented to the student.

[← Back to Question](#) [Submit](#) [Skip](#)

- Once you have started manual grading for an assessment, you can find the student's name under "**Student details**".

- When you need to compare your feedbacks after manual grading, you can go to Assessment -> Manual Grading and click on "Show student info". Here, you can see the students' name, whether or not the assessment has been graded and who graded the assessment. This should make it easier for you to navigate through assessments that have already been graded.

This assessment currently has 30 open instances. Please ensure all students have completed their assessments before grading. You may close all open instances on the [Students tab](#).

- Questions can be manually graded with **Grader's Notes** that will only be visible to the grader at the time of grading. This can be added while creating the questions. Refer to [Question Configuration Guide](#) and [Elements for Writing Questions Guide](#) for more information.

l) Does the mode from raw data mean much in a dataset like this? Why or why not? Answer in a very short sentence.

Grader Notes: No, mode from raw data is useless

m) Based on the analysis of this data and assuming that demand remains constant in the upcoming years, what would you do as a manager of the mill?

Grader Notes: No correct answer ... One possibility is that more staff (an additional shift) is required to keep up with demand. The solution should include some of the statistics computed in the lab. For example, an average of 54.69 hours is equivalent to more than one person-day.

- Wherever necessary, hand-drawn graphs by the students can be compared to a computer-generated graph specific to the student's attempt for grading. Clicking on **"Show Preview"** will display a preview of the student's graph.

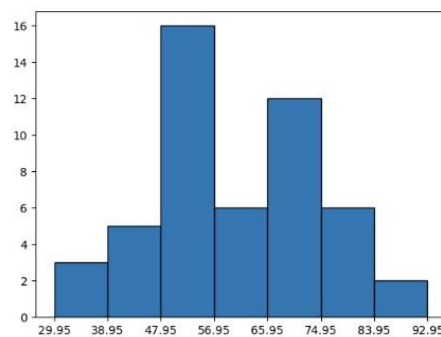
c) [JPG submission] Draw a histogram that illustrates the frequency distribution above. Don't forget to include axis labels and units.

Files

Histogram.jpg
uploaded

Download

Show preview ▾



Resolving Errors reported by Students

- Students can report errors in assignment and quiz questions when they attempt it.

| Question HW4.2 | |
|----------------------------------|------------|
| Submission status: | unanswered |
| Best submission: | — |
| All variants: | Open |
| Total points: | — /3 |
| Auto-graded question | |
| Report an error in this question | |

- These errors will appear on the instructors' end as an "Issue".

- The teaching team can then review the error reported and resolve it at their discretion. For additional help on troubleshooting the errors, please contact the TLS team.

Lab4Q2 (instructor view, student view, manual grading, assessment details)
 "Test Error"
 #229409 reported 2 minutes ago by Kumaravendhan Ravichandran (kravicha@ubc.ca) Manually reported HW4 New 1

Releasing Grades

- To allow students to see their attempt and feedback after the assessment is closed, you will need to specify another json parameter **"showClosedAssessment"** : true.
- If you would like to release the grades only after all assessments are graded, you can add another json parameter **"showClosedAssessmentScore"** : false.


```
{
  "uuid": "72d269a7-4710-44d0-8a76-c3cdeafedcd7",
  "type": "Homework",
  "title": "Lab 1 & 2",
  "set": "Labs",
  "number": "1",
  "allowAccess": [
    {
      "endDate": "2025-01-31T23:59:59"
    },
    {
      "uids": ["jshakarc@ubc.ca"],
      "startDate": "2025-01-08T08:00:00",
      "endDate": "2025-02-03T23:59:59"
    },
    {
      "active": false,
      "showClosedAssessment": true,
      "showClosedAssessmentScore": false
    }
  ],
  "zones": [
    {
      "questions": [
        {
          "id": "Lab1_2_Q1",
          "autoPoints": 122,
          "manualPoints": 78
        }
      ]
    }
  ]
}
```

Transferring Grades to Canvas

- Since PrairieLearn does not automatically sync grades with Canvas, it's recommended that the teaching team manually transfer grades to the Canvas Gradebook after grading is complete.
- For large courses, if you need help, please contact the TLS Team in advance.

Assessment Statistics

- Click on **"Statistics"** on the top Menu bar for an assessment

Access

Downloads

Files

Groups

Questions

Question stats

Manual Grading

Regrading

Settings

Statistics

Students

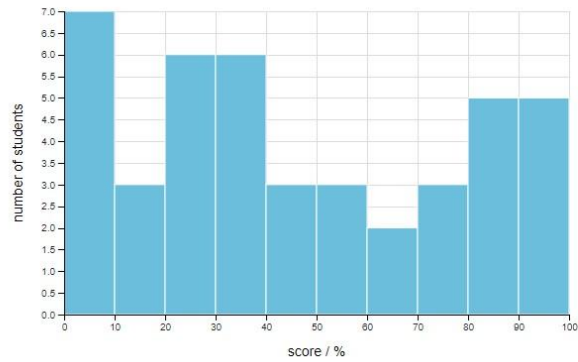
Uploads

Homework 1: Questions

| | QID | Topic | Tags | Auto Points | Manual Points | Mean score | Num. Submissions | Histogram |
|--|---------------------------------|----------|------|-------------|---------------|------------|------------------|-----------|
| Zone 1. Questions (Choose all questions) | | | | | | | | |
| 1. Spectral Reflectances 1 | Quiz_1_Spectral_Reflectances_1 | Quiz 1 | | 1/3 | — | | | |
| 2. Spectral Reflectances 2 | Quiz_1_Spectral_Reflectances_2 | Quiz 1 | | 1/3 | — | | | |
| 3. Digital Imagery Terms | Quiz_1_Digital_Imagery_Terms | Quiz 1 | | 1/3 | — | | | |
| 4. Reflectance Ranges | Quiz_1_Reflectance_Ranges | Quiz 1 | | 1/3 | — | | | |
| 5. Map Terms | Quiz_1_Map_Terms | Quiz 1 | | 1/3 | — | | | |
| 6. Forest Cover Map | Quiz_1_Forest_Cover_Map | Quiz 1 | | 1/3 | — | | | |
| 7. Map Scale Calculations 1 | Quiz_1_Map_Scale_Calculations_1 | Quiz1 | | 1/3 | — | | | |
| 8. Map Scale Calculations 2 | Quiz_1_Map_Scale_Calculations_2 | Quiz1 | | 1/3 | — | | | |
| 9. Compare Timber Volume | Quiz_1_Compare_Timber_Volume | Quiz1 | | 1/3 | — | | | |
| 10. Total Timber Volume | Quiz_1_Total_Timber_Volume | Quiz1 | | 1/3 | — | | | |
| 11. DBH Volume Comparison | Quiz_1_DBH_Volume_Comparison | Quiz1 | | 1/3 | — | | | |
| 12. Site Index Productivity | Quiz_1_Site_Index_Productivity | Quiz1 | | 1/3 | — | | | |
| 13. Quiz Feedback Question | Quiz_Feedback_Question | Template | | 1/1 | — | | | |

- This page displays the summary statistics for a particular assessment, including the students' overall average, median, etc. A CSV file of this data can be obtained by clicking on the link displayed at the bottom of the page

Homework 1: Score statistics



| | |
|--------------------|-----------------|
| Number of students | 43 |
| Mean score | 46% |
| Standard deviation | 32% |
| Median score | 39% |
| Minimum score | 0% |
| Maximum score | 100% |
| Number of 0% | 3 (7% of class) |
| Number of 100% | 2 (5% of class) |

Download [RST_239_TemplateCourseInstance_HW1_score_stats.csv](#) Data outside of the plotted range is included in the last bin.