PREPARE FOR GRADESCOPE BUBBLE SHEETS
TODAY’S AGENDA

• Why do I need to prepare for Gradescope Bubble Sheets?
• Accessing Gradescope
  – Gradescope’s CourseLink Integration
• Printing and Scanning Bubble Sheets
• Creating Answer Keys
• Importing Scans and Student Matching
• Grading and Exporting to CourseLink
• Statistics and Item Analysis
• Finding Gradescope Support
• Question and Answer Period (Optional)
Why do I need to prepare for Gradescope Bubble Sheets?
**WHY DO I NEED TO PREPARE FOR GRADESCOPE BUBBLE SHEETS?**

As of Fall 2022 Scantron will no longer be supported

- If you are currently using **Scantron** as your bubble sheet solution for quizzes, midterms, or exams it **will not be an option in F22**
- **After S22 Gradescope is the only supported option** for collecting multiple choice responses that can be auto-graded
# Bubble Sheet System Availability Summary

<table>
<thead>
<tr>
<th></th>
<th>Summer 2022</th>
<th>Fall 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scantron</strong></td>
<td>Available</td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Gradescope</strong></td>
<td>Open Pilot*</td>
<td>Available</td>
</tr>
</tbody>
</table>

*If you would like to use bubble sheets as part of the open pilot in S22, please contact our ITS team at insttech@uoguelph.ca for additional support.
ACCESSING GRADESCOPE
ACCESSING GRADESCOPE

• Gradescope can be accessed in two ways:
  1. Via the CourseLink Integration (Content tool)
  2. Directly via gradescope.ca using SSO
**ABOUT GRADESCOPE’S COURSELINK INTEGRATION**

The CourseLink Integration allows you to:

- Connect your course site to an existing Gradescope course/assignment or create a new Gradescope course/assignment
- Sync your CourseLink course site’s “Classlist” with the Gradescope course “Roster”
- Automatically create grade items associated with the Gradescope assignment in CourseLink’s Grades tool
- Push scores from Gradescope to their associated CourseLink grade item
ACCESSING GRADESCOPE VIA SSO AT GRADESCOPE.CA

Gradescope’s School Credentials (SSO) login allows you to:

• Create a new Gradescope course/assignment
• See and manage any Gradescope courses/assignments you have at UofG,
  – Includes those created through the CourseLink integration

To get the most out of Gradescope, using the integration to connect your course site and Gradescope assignments is recommended.
INTEGRATION RECOMMENDATIONS – CONTENT MODULE

When creating bubble sheet assignments, hide the content module or item when you add it in CourseLink

• You will maintain access, but students won’t see the link, which can avoid confusion (in most cases students do not need to access/review these sheets)

Bubble Sheet Module

Add dates and restrictions...

Add a description...

Visibility

Final Exam MC

This is a link to a Gradescope assignment.
INTEGRATION RECOMMENDATIONS – GRADE ITEM

Go to Manage Grades after creating the bubble sheet assignment to hide the grade item Gradescope creates and adjust its max points value (defaults to 1)

• If you are unsure of your max points value, come back and adjust before posting grades from Gradescope
INTEGRATION RECOMMENDATIONS – ROSTER SYNC

If it is your first/only Gradescope assignment, be sure to access Gradescope and sync the Roster with the Classlist.

• If you do this early in the semester, you may want to re-sync closer to the assessment to ensure you have the most up-to-date roster on Gradescope.
PRINTING AND SCANNING BUBBLE SHEETS
PRINTING GRADESCOPE BUBBLE SHEETS

• Gradescope’s bubble sheet template is simply downloaded from Answer Key page as a PDF
• Once downloaded, you may print as many sheets as required to distribute to students (print a few extras)
• Gradescope bubble sheets can accommodate up to 200 multiple choice questions
  – For 100 or less you can simply print page one
  – For over 100 questions, print both pages (double-sided if you plan to leverage the CCS Scanning Service)
Printing Gradescope Bubble Sheets

Accessing the 200-question template from the Answer Key

Bubble Sheet Answer Key

**Version A** + Add Version

Bubble sheet assignments use our 200-question template.

Allocate answers to the numbered questions. Any question without an allocated answer will not be graded. If your assignment contains multiple versions, all submissions will be automatically assigned to their version during upload.

### Question Grading Defaults

<table>
<thead>
<tr>
<th>Points</th>
<th>Scoring</th>
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<tbody>
<tr>
<td>1</td>
<td>Exact, Partial, Either/Or</td>
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</tbody>
</table>

Full credit is awarded only for the exact correct answer.

**Page 1**

<table>
<thead>
<tr>
<th>Question 1</th>
<th>Question 26</th>
<th>Question 51</th>
<th>Question 76</th>
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**Page 2**

<table>
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<tr>
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<th>Question 27</th>
<th>Question 52</th>
<th>Question 77</th>
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<tbody>
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**Page 3**

<table>
<thead>
<tr>
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<th>Question 28</th>
<th>Question 53</th>
<th>Question 78</th>
</tr>
</thead>
<tbody>
<tr>
<td>A B C D E</td>
<td>A B C D E</td>
<td>A B C D E</td>
<td>A B C D E</td>
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</table>
PRINTING GRADESCOPE BUBBLE SHEETS

Accessing the 200-question template from the Answer Key

<table>
<thead>
<tr>
<th>Name</th>
<th>Version</th>
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</thead>
<tbody>
<tr>
<td>ID</td>
<td>Other</td>
</tr>
<tr>
<td>Section</td>
<td>Marking Instructions</td>
</tr>
<tr>
<td>Date</td>
<td>Example</td>
</tr>
</tbody>
</table>

Example:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SCANNING GRADESCOPE BUBBLE SHEETS
SCANNING GRADESCOPE BUBBLE SHEETS

Since Gradescope bubble sheets use standard paper and do not require a proprietary scanner, you have options!

• **Option 1: Self Scan**
  – Collect the bubble sheets from students and scan them to a PDF file on your department’s printer/scanner or using a personal scanner

• **Option 2: Use the CCS Scanning Service**
  – CCS continues to offer scanning for Gradescope bubble sheets, just as they did for Scantron
  – The service is limited to only single page scans (print double sided for >100 questions)
SCANNING GRADESCOPE BUBBLE SHEETS

Scanning Considerations:

• Does your department have a quality printer/scanner that can scan multiple of pages to a single PDF file?
  – Try not to leave it until the last minute in case there is a technical issue, or it is already in use

• How large is your class?
  – Self-scan may be a better option for smaller classes

• Do you have access to the CCS Scanning Service?
  – Satellite campuses (Ridgetown/Guelph-Humber) do not

• Do you want more control over when your sheets are scanned?
  – The CCS Scanning Service can get busy during exam period
SCANNING GRADESCOPE BUBBLE SHEETS

What do you need from the scan?

• A PDF file of all the scanned bubble sheets
  – Ideally a single file, however you may upload multiple files to Gradescope as well (e.g., scan section 01 to one file, scan section 02 to another, etc.)
  – If you are using multiple versions of a bubble sheet with different answer keys, you may scan them all to a single file
    • Scan in any order – Gradescope will sort them automatically based on the version indicated by the student
    • No manual pre-sorting required!

TIP

When scanning, be sure to set the scanner to scan 8.5”x11” paper to ensure there are no issues with alignment for investigating uncertain marks!
CREATING ANSWER KEYS
CREATING YOUR ANSWER KEY

Answer keys **do not** need to be completed by the instructor until you are ready to upload scans

- Students can take the quiz/exam before the answer key is completed by the instructor

When you are ready to complete the answer key, simply create or access the bubble sheet assignment

- Clicking the link to your bubble sheet assignment created in CourseLink will take you directly to the answer key

This is a link to a Gradescope assignment.
SETTING UP YOUR ANSWER KEY

All questions on the bubble sheet can be set with the following question grading defaults:

• A custom point value per question value (default = 1)
• A custom scoring method (default = exact)

Bubble Sheet Answer Key

Version A  Add Version

Bubble sheet assignments use our 200-question template.

Allocate answers to the numbered questions. Any question without an allocated answer will not be graded. If your assignment contains multiple versions, all submissions will be automatically assigned to their version during upload.

Question Grading Defaults

POUNTS

1

SCORING

Exact  Partial  Either/Or

Full credit is awarded only for the exact correct answer.
**SETTING UP YOUR ANSWER KEY**

Gradescope’s 3 Scoring Method Options

1. **Exact**: There is only one correct answer or set of answers. Selecting any incorrect option results in a zero.

2. **Partial**: There are multiple correct answers and students get partial credit for each one selected. Selecting any incorrect option results in a zero.

3. **Either/Or**: There are multiple correct answers and students get full credit for any correct option selected. Selecting any incorrect option results in a zero.
SETTING UP YOUR ANSWER KEY

Scoring Method Example:
The question is scored out of 1 point. The correct answers are B and C on the answer key. The student has selected B as their answer.

- **Exact**: Student receives **0 points** (did not select C)
- **Partial**: Student receives **0.5 points** (selected 1 of 2 correct)
- **Either/Or**: Student receives **1 point** (selected a correct answer)
**SETTING UP YOUR ANSWER KEY**

- Answer Keys are then set up by selecting the correct answer(s) for each question

<table>
<thead>
<tr>
<th>PAGE 1</th>
<th>Clear Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUESTION 1</td>
<td>A</td>
</tr>
<tr>
<td>QUESTION 2</td>
<td>A</td>
</tr>
<tr>
<td>QUESTION 3</td>
<td>A</td>
</tr>
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<td>QUESTION 4</td>
<td>A</td>
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<tr>
<td>QUESTION 5</td>
<td>A</td>
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<tr>
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<td>A</td>
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<td>QUESTION 79</td>
<td>A</td>
</tr>
<tr>
<td>QUESTION 80</td>
<td>A</td>
</tr>
</tbody>
</table>
SETTING UP YOUR ANSWER KEY

At the question level, any question can have its point value or scoring method adjusted

• E.g., Most questions are out of 1 and use exact scoring, but question 24 is worth 5 points and allows for Either/Or scoring
**Answer Key Versioning**

Up to 5 different answer sheet versions can be created for each bubble sheet assignment

- Students indicate which version they receive
- Instructors select correct answers in each key version
- Gradescope auto-grades based on the version

Bubble Sheet Answer Key

| Version A | + Add Version |

Bubble sheet assignments use our [200-question template.](#) Question Grading Defaults

Bubble Sheet Answer Key


Bubble sheet assignments use our [200-question template.](#) Question Grading Defaults
**Answer Key Versioning – Uncertain Versions (Manage Submissions)**

If no bubble sheet version is indicated by the student, Gradescope allows an instructor to see how each of those uncertain versions would score on each answer key!
IMPORTANT NOTE ABOUT VERSIONING AND COURSELINK GRADE ITEMS

To ensure scores for all versions are linked to a single grade item (not just version A), a different workflow is required:

1. Create a link between your course site and a Gradescope course
   - Content > Existing Activities > External Learning Tools
2. Create the bubble sheet assignment in Gradescope
3. Create your Answer Key versions
   - You do not need to set up all the answer bubbles at this point, but can if you wish
4. Return to CourseLink and set up the integration as normal, but link to an existing Gradescope course and bubble sheet assignment

Step-by-step instructions for this process will be available through OpenEd’s Support & Documentation site ahead of F22.
IMPORTING SCANS & STUDENT MATCHING
Importing Bubble Sheet Scans

Once your answer key is set up, the PDF file(s) from your scan can be added to the bubble sheet assignment through the Manage Scans page.
IMPORTING BUBBLE SHEET SCANS

Gradescope then splits the scans into their appropriate pages by student

- If any pages are not split correctly, you can manually adjust them (rare for bubble sheets)
IMPORTING BUBBLE SHEET SCANS

When everything looks good, click **Manage Submissions** to match the scans to students.
**STUDENT TO BUBBLE SHEET MATCHING**

On the **Manage Submissions** page, Gradescope uses advanced text recognition to auto-assign completed bubble sheets to students listed on the Gradescope roster.
**Student to Bubble Sheet Matching**

If a match cannot be found automatically you will be prompted to match manually for unmatched students.

- Gradescope restricts matching options to students who are not already matched, simplifying the process.
STUDENT TO BUBBLE SHEET MATCHING

Once the bubble sheets are matched, click **Grade Submissions** to complete the grading process.
GRADING AND EXPORTING TO COURSELINK
Once student submissions are matched, Gradescope will then auto-grade based on the answer key(s)

- If any questions contain uncertain marks from students, they are flagged by Gradescope for a manual review
  - Uncertain marks may include slashes instead of filling in the circles, crossing out a bubble, adding an arrow, etc.

<table>
<thead>
<tr>
<th>Question</th>
<th>Marks</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>9: Question 9</td>
<td>10</td>
<td>100% GA</td>
</tr>
<tr>
<td>10: Question 10</td>
<td>7</td>
<td>70% GA</td>
</tr>
</tbody>
</table>

Assignment grading progress: 97%
For questions with uncertain marks, Gradescope’s AI suggests an answer for each student based on what it sees, which you can confirm or modify, then confirm.

- A zoom out feature gives a better look at the original scan
- Once all uncertain marks are resolved, you may Confirm All Marks, then move on to Review Grades
REVIEWING GRADES

From Review Grades in the bubble sheet assignment, you can see some basic overall statistical data as well as the scores for the students.

- **RELIABILITY**: 0.85
- **MINIMUM**: 1.0
- **MEDIAN**: 7.0
- **MAXIMUM**: 10.0
- **MEAN**: 5.6
- **STD DEV**: 3.27
- **STD ERROR**: 1.26

### 10 Students

<table>
<thead>
<tr>
<th>FIRST &amp; LAST NAME</th>
<th>EMAIL</th>
<th>SCORE/10.0</th>
<th>GRADED?</th>
<th>VIEWED?</th>
<th>COURSELINK</th>
<th>TIME (EST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex Kerfoot</td>
<td><a href="mailto:alex@gradescopedemo.ca">alex@gradescopedemo.ca</a></td>
<td>1.0</td>
<td>✓</td>
<td>❌</td>
<td></td>
<td>Mar 07 at 10:52AM</td>
</tr>
<tr>
<td>Auston Matthews</td>
<td><a href="mailto:auston@gradescopedemo.ca">auston@gradescopedemo.ca</a></td>
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</tbody>
</table>

Download Grades  Export Evaluations  Export Submissions  Post Grades to CourseLink  Publish Grades
EXPORTING GRADES TO COURSELINK

To send the scores from Gradescope to CourseLink, simply click the Post Grades to CourseLink button

- Remember to ensure the max points of the grade item matches the total score for the bubble sheet
- If the grade item is hidden, students will not see their score or receive a notification
EXPORTING GRADES TO COURSELINK

For bubble sheets, there is *typically* no need to click Publish Grades

- In most cases there will not be any additional feedback for students to review on Gradescope
- If you publish, students will be able to see their completed sheets and scores on Gradescope even if the CourseLink grade item is hidden
GRADESCOPE’S STATISTICS AND ITEM ANALYSIS
STATISTICS AND ANALYSIS

Gradescope provides two ways to explore the data that is collected after bubble sheet grading is complete:

1. Statistics
2. An Item Analysis Report
STATISTICS

Gradescope’s Statistics option, provides 4 different ways to look at data through their interface:

1. Reliability (Cronbach’s Alpha)
2. Standard Error
3. Standard Deviation
4. Student Answer Report (downloadable CSV)

More information on all statistics options are available on Gradescope’s Help Centre
Gradescope also provides the ability to apply custom tags to questions to group and sort statistics by the applied tag.

More information on question tagging can be found on Gradescope’s Help Centre.
ITEM ANALYSIS

Gradescope’s Item Analysis report for bubble sheets helps instructors understand the quality of each test question by looking at the question and the individual options. It includes two data sets:

1. Discriminatory Score (Point Biserial Coefficient)
2. Distractor Analysis

More information on both options are available on Gradescope’s Help Centre
STEP-BY-STEP REVIEW
STEP-BY-STEP: GRADESCOPE BUBBLE SHEETS (NO VERSIONING)

1. Create a link to your Gradescope course/assignment via the CourseLink integration (Content > Existing Activity > Gradescope)
   - Hide the content item/module
   - Hide the grade item created and adjust the max points
   - Sync your Classlist with the Gradescope Roster
2. Print bubble sheets & have students complete them (Answer Key)
3. Define bubble sheet answers (Answer Key)
4. Scan the completed bubble sheets to a PDF file
   - Self scan or CCS Scanning Service
5. Upload the PDF to Gradescope (Manage Scans)
6. If necessary, match students manually (Manage Submissions)
7. Review any questions with uncertain marks (Grade Submissions)
8. Post grades to CourseLink (Review Grades)
GRADESCOPE BUBBLE SHEET SUPPORT
GRADESCOPE BUBBLE SHEET SUPPORT

• Pilot Participation Requests
  – Instructional Technology Specialist (ITS) Team: insttech@uoguelph.ca

• General Gradescope Support
  – CourseLink Support: courselink@uoguelph.ca or x.56939

• Documentation
  – OpenEd Documentation and Support Site (currently under construction)
**GRADESCOPE PROGRAMMING**

**Past Sessions** (recordings and slides available):

- Get to Know Gradescope Series (W22)
  - Introduction to Gradescope
  - Introduction to Bubble Sheets
  - Introduction to Exams/Quizzes
  - Introduction to Homework & Problem Sets
  - Introduction to Online Assignments

- Introduction to Programming Assignments (May 6th)
GRADESCOPE PROGRAMMING: S22 SESSIONS AND SUPPORT

Ongoing Sessions:
• Online Gradescope Drop-Ins (via Zoom)
  – Tuesdays (10-11 am)
  – Wednesdays (2-3 pm)
• Weekly Online Workshop (Run by Gradescope)
  – Thursdays at noon

Monthly Sessions
• Prepare for Gradescope Bubble Sheets (this session)
  – June 13, July 14, August 18
Other Gradescope Programming

• Gradescope for Assessment of On-Paper Assignments and Tests (June 16)

• Transitioning from Crowdmark to Gradescope for On-Paper Assessments (June 28)