Guide for Processing Classroom Tests

This brief guide provides information to assist faculty in the use of the classroom testing program. Successful processing of your classroom tests requires the accurate completion of the forms described below.

Forms Needed

Instructors using this service must submit a set of forms which contains:

- **Course Identification Sheet (blue)**:
  The Course ID sheet gathers general information necessary to identify the course, including the Instructor's User ID (PawPrint).

- **Key Sheet(s) (red)**:
  A completed Key Sheet with correct responses is required for scoring each version of an exam. An additional key sheet is required if any item(s) has multiple correct responses.

- **Student Answer Sheet(s) (MU General Answer Sheet - MUGAS) (blue):**
  This answer sheet provides space for students to answer up to 150 items and allows for five (5) possible responses. Optional responses are numbered 1, 2, 3, 4, and 5.

  The student name and student number must be bubbled in on the front of the form. Strongly encourage students to fill out these areas. Incomplete answer sheets will result in a reported score with no identifying information.

- **Item Weight Sheet (purple):**
  This form provides instructors with the opportunity to assign a weight to any item. When an item has a score point value other than one (1), this sheet must be completed. *If all items have a point value of one (1), this sheet is not needed.*

A supply of forms is kept in 112 Townsend Hall.

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Special Scoring Needs

- **Multiple correct responses**:   If any item in an exam requires more than one answer to be scored as correct, an additional Key Sheet is needed. Please do not fill out the entire second Key Sheet; only record the necessary, additional answers.

- **Always Correct:** To count an item as "**always correct,"** instructors must mark all possible responses for that item AND include an Item Weight Sheet which indicates the point value for that item (usually "1" for one point). When there are multiple versions of an exam, each key sheet will need to be followed by a corresponding Item Weight Sheet.

- **Omitting an Item:** To omit an item from scoring, please leave all responses for that item blank when completing the Key Sheet.

Notes about Scoring

- Multiple marks on a student response item are treated as a blank. This item will not be counted as correct.

Scoring Process

Scoring materials delivered to 112 Townsend Hall by Noon will be processed on the same day; materials received after that time will be processed the following day. After the forms are scanned, the instructor is notified by email that the results are available for review, report generation, and downloading to Blackboard.

Classroom Testing Data Retention Policy

After tests are scanned and placed into our online system, the results will remain available in our online system for 180 days (6 months). During this time the results can be viewed or downloaded as many times as needed.

After this initial period, all data will be archived for a period of 1 year. This data can be returned to active status on request.

Data older than 18 months will be permanently removed from the system unless special arrangements have been made.

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Reports and Output of Results

Moving a mouse over the image in the application will pop up a short description of the possible "actions."

Summary   Roster   Frequencies   Analysis   Individual   Blackboard   Raw Data

Action List

- **View Batch Summary**
  Displays general information about a batch, either combined or by test form. Includes: Number of Examinees, Number of Items Scored, Maximum Score (possible and obtained), Minimum Score (possible and obtained), Mean, Standard Deviation, Skewness, Kurtosis, Percentile Information, Kuder-Richardson 20 Reliability, and Standard Error of Measurement.

- **View Student Roster**
  Display the students in the batch. Includes: Student ID, Student Name, Test Form Taken, and Score. All columns in the presented table are sortable.

- **View Score Distribution/Frequencies**
  Displays a student performance information graph by frequency of score occurrence, either combined or by test form.

- **View Item Analysis**
  Displays performance information for each Item on a test form. Includes: Item Number (Position), Point Biserial Correlation, Proportion Correct, Indication of Correct Response, Item Weight, Number of Omits, and Frequency of each response with the most frequent response highlighted.

- **Individual Reports:** Per student report that can be used to distribute results.

- **Download File for Import to Blackboard**
  Download data set prepared for upload into the MU Blackboard system.

- **Download Data File**
  Download the raw scan data in a legacy fixed length format.

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Changes to Classroom Testing for Fall 2013

Security:

- Logging in – Classroom Testing has been tied into the University of Missouri single sign on system (Pawprint).
  - Accounts that existed in the old version have been mapped to a Pawprint when possible and should require no additional configuration.

- Permissions: - The official course instructor now has the ability to grant access to select University of Missouri graduate students, faculty, and staff.   This permission can be for a single class, an entire semester, or on an ongoing basis. These granted permissions are easy to add and remove.   This permission grants the assignee all access the Instructor has, including the ability to edit class information and key sheets.

General Features:

- Key Editing – Instructors now have the ability to edit their submitted keys online rather than having to pay an additional processing fee for rescanning a corrected key.   The following modifications can be made to an existing key.
  - Change the correct response
  - Allow for multiple correct responses
  - Change the weight of a response

- Cross browser compatibility - The system has been updated to better function with a wide variety of browsers and no longer requires the Java plugin to function.

Update notes 9/24:

- Reports can now be directly printed from the page they appear on.
- Granting permission to a user now gives them permissions for all screens, including editing key sheets was broken in prior release.
- The MERMAC analysis report has been removed, please contact us if you use this report and would like to see it return.

- KR20 Reliability (Kuder–Richardson Formula 20[1]): A measure of internal consistency reliability for measure with dichotomous choices. Values can range from 0.00 to 1.00 A high KR-20 coefficient (e.g., > 0.90) indicates a homogeneous test.

- Kurtosis: The measure of the peak of a distribution, and indicates how high the distribution is around the mean. Mean Score: The average (sum of all scores / number of scores)

- Median Score: For an odd number of scores, if the scores are ranked in score order, the middle score. For an even number of scores, if the scores are ranked in score order, the average of the two middle scores.

- Point Biserial Correlation (RPBI): It indicates the relationship between the item response and the total test score within the group tested, i.e., it measures the discriminating power of an item.

- PROP: The proportion (PROP) of students who answer each alternative and who omit the item. The item difficulty is the proportion of subjects in a sample who correctly answer the item.

- Quartile: The data points that divide a ranked set of data into four equal groups.

- Quintile: The data points that divide a ranked set of data into five equal groups.

- RPBI: See Point Biserial Correlation above.

- Semi-Interquartile Range: This range is one-half the difference between the first and third quartiles. It is half the distance needed to cover half the scores. The semi-interquartile range is affected very little by extreme scores. This makes it a good measure of spread for skewed distributions.

- Skewness: A measure of the extent to which a probability distribution of a real-valued random variable "leans" to one side of the mean.

- Standard Deviation: A measure of how closely the scores are grouped around the mean score

- Standard Error of Measurement: Estimates how repeated measures of a person on the same instrument tend to be distributed around his or her "true" score.

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[1] Kuder, G. F., & Richardson, M. W. (1937). The theory of the estimation of test reliability. Psychometrika, 2(3), 151–160.

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Getting Assistance

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