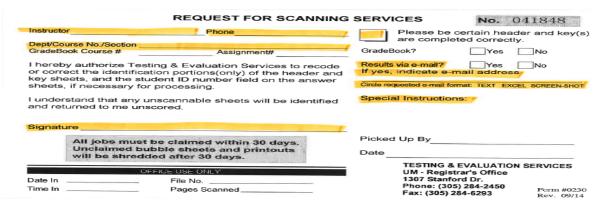<div style="border:1px solid green">

# Testing and Evaluation Services
# Scanning Procedures

</div>

Testing and Evaluation Services *will no longer have the turnaround time of 3 hours*. While most tests can be scored the same day, during high volume periods (e.g. mid-terms, finals and/or course/faculty evaluations), additional time may be required. **Jobs left after 2:00 p.m. ordinarily will be available before Noon the next business day.** Both staff members are now working with online evaluations and processing exams as well as other duties as assigned by management. We ask for the following in order to help us help you make the turnaround and your request in a timely manner. **After-hours drop location provided at the Dispatch Counter, Ungar 124.**

**Testing:**

- When submitting a job for scanning and scoring, place the header first, the key(s) and student answer sheets are placed last. Make sure all sheets are the same kind and arrange them so that the cut edge is on the upper right corner.

- Please make sure that a "Request for Scanning Services" claim check accompanies exams left at the front desk and that each exam is put inside an envelope and sealed with the gold sticker that is provided by our department with your initials on it. And that all fields highlighted below are filled in correctly.

- If results are requested to be emailed- you must circle the format(s) in the "Request for Scanning Services" form. If you have forgotten to circle another format after the exam has been processed and emailed, your request will be processed in the order in which it was received.



- Completing both header and key correctly - please keep in mind when dropping off with an employee at the front desk they are not authorized to review your exams or header/key. If you are having trouble completing the header and key, please visit our website at www.miami.edu/registrar.

- Students must darken their answers completely using only a soft lead (No. 2) pencil. If they bubble with pen, the exam will not be scored.

- If you have multiple forms (keys), please be sure to indicate it on the header and make sure that your students have bubbled in the form number- if not the exam will not be scored.

- Gradebook- if requesting for results to be uploaded to Gradebook, you must provide us with the course number and assignment number. How to get this? You must contact Gradebook directly at 305-284-6565 to create your account.

**SCHEDULE OF FEES AND SERVICES**
**Scannable forms**:

| | |
|---|---|
| **Universal survey** (NCS form) | $45.00 per ream (500 sheets) |
| | smaller quantities @ .10/sheet |
| **Standard Scantron answer form**\* | $34.00 per ream (500 sheets) or a box of 10 reams $340.00 |

In advance, thank you for your cooperation!

# Test/Survey Scoring Instructions

When submitting a job for scanning and scoring, place the header first, the weighted question key(s) next (if used) followed by the test key(s) or survey identification sheet.  Student answer sheets are placed last.  Make sure all sheets are the same kind and arrange them so that the cut edge is in the upper right corner. Never use staples.  Do not write or mark outside the grids. The student ID number listing (for tests) will include scores only for those who darken the circle in the grade release statement on the answer sheet.

# Preparing the Header

On a standard answer form, complete the following grids.  (Note: When using Law School answer sheets, the header should be completed using a standard answer form.)

**LAST NAME**:  beginning at the left side, print the last name of the professor or survey director and darken the corresponding circle below each of the letters.
**FIRST NAME**:  leave blank.
**STUDENT ID NUMBER**:  fill in all boxes with the **number "1"** and darken the corresponding circles below.
**FM (TESTS ONLY)**:  indicate the number of keys (answer sheets marked with the correct answer choices) and darken the corresponding circle.  For surveys, leave this field blank.
**GP:**  for multiple groups, indicate the number of groups or highest group number, whichever is greater, and darken the corresponding circle.  (Each section can be treated as a separate group.)  To allow for correct sorting, each student must mark a group number on the answer sheet.  For only one group, leave this field blank.
**SEAT:**  enter the number of the last (highest numbered) question on the test or survey and darken the corresponding circles.  If less than 100, begin with zero(s).

Output options are selected on the Header in the answer grid section of the sheet.

# Preparing the Key(s) or the Survey Identification Sheet

On a standard answer form complete the following grids. (Note: When using Law School answer sheets, the key should be completed using a standard answer form.)  Complete a separate key for each form of the test.

**LAST NAME**:  beginning at the left side, print the three letter identifier for your department (or another identifier) and darken the corresponding circles below.
**FIRST NAME**:  beginning at the left side, print the course section letter(s) and darken the corresponding circle(s) below.  (Course section numbers must be converted to letters.)
**STUDENT ID NUMBER**:  fill in all boxes with the **number "9"** and darken the corresponding circles below.
**FM (TESTS ONLY):**  indicate the form number of each key and darken the corresponding circle.  You may begin numbering with either "0" or "1", but the highest numbered key must not be greater than the total number of keys indicated in the FM grid on the header. For multiple-form tests, student answer sheets with a missing form number cannot be scored.  For surveys, leave this field blank.
**GP:**  leave blank.
**SEAT:**  enter the course number and darken the corresponding circles.
**ANSWER GRID (TESTS ONLY).**  For standard test scoring, mark only one correct response for each question on the answer grid.  Grading options are listed below:

(1) Omit a question.  Leave the key blank for that item.  (If erasing, do so completely.)  The item will not be scored.
(2) Give everyone credit for a question.  Mark any two answer choices for that item on the key.  All five responses will be scored as correct.
(3) Weight one or more questions.  Refer to OPTIONAL TEST OUTPUT section.
(4) Weight the test.  When a separate, hand-scored portion of the test (e.g., essay or short-answer questions) is to be included in the total test score, the machine-scored portion can be weighted by following instructions in APPENDIX A.

# Output Information

These options are to be bubbled in on the HEADER sheet in the multiple choice grid. Optional Test Output. These options are available for tests. (For surveys, see OPTIONAL SURVEY OUTPUT)

**Item 2:** output file sorted by name. (A excel file compatible with the columns listed below.) Darken for outfile:
**2 or B   For e-mail.** On the claim check, please provide the e-mail address (es) to which the output should be sent. (Output can be sent as a text document using Notepad, as an Excel attachment, or as a Screen Shot. If not specified on claim check, the output will be sent as a excel file.)

Output data depends on what areas of the answer sheet are bubbled in by students on the answer sheet; e.g., not all test takers are required to use the Form, Group and Seat areas of the answer sheet. Output format also depends on whether a regular or a Law School answer sheet is being used. The output file includes one record per student. Basically, the text file lists the student's ID (cols 1-9), name (cols 11-39), group number (col 41), form number (col 43), seat number (cols 45-47), score (cols 50-54 with one decimal place), percentage (cols 56-60), and number of questions omitted (cols 62-65). The Excel file is organized in the same manner. The Screen Shot option produces a rich text Word document that includes all the output pages that print with your exams, minus the histogram.

**Item 3:  multiple forms test question order.** If you have indicated more than one form (using more than one key), darken one of the following circles:
**1 or A**   Test questions are the same, but each form (key) represents a unique scrambled order.
**2 or B**   Test questions are not the same across forms.

This selection has no effect on the scoring of the test, but when test questions are not the same across forms (selection 2 is marked), a histogram will be produced automatically for each form of the test in addition to the overall histogram.

**Item 5:  weighted questions.** This option allows test items to be assigned weights ranging from one to five points. Darken the following circle:
**1 or A**   Key(s) contain weighted questions.

In addition, a weighted question key must be prepared for each answer key. Using another blank answer form, complete the following grids:
**STUDENT ID NUMBER:** fill in all boxes with the number **"5"** and darken the corresponding circles below.
**FM:** when using multiple keys, indicate the form number of each key and darken the corresponding circle.
**ANSWER GRID:** you need only indicate the test items receiving a value greater than one. Mark "2" for each two-point item, "3" for each three-point item, "4" for each four-point item, and "5" for each five-point item. (Any items on the weighted question key left blank, double marked, or marked with a "1" will be scored with a value of one.) Do not mark answer choices on this key.

**Item 6:  listing of student responses**. For a list of student responses to each question sorted by ID number, darken this circle:
**1 or A**   Produce listing.
A separate listing is produced for each form, and the key is printed as the first line on each listing. This enables the professor to compare student responses with the key and to help identify which answers were double coded or left blank (to check against a student's answer sheet). If multiple forms are used, refer first to the alphabetical listing to find the student's form number.

**Item 7:  student handout sheets.** To obtain student handout sheets (one page per student): Individual reports for each student (printed one per page) contain desired identification option, score, and percentage correct; the course prefix, number, and section; and a list of the student's responses and corresponding correct answers.
**1 or A**   Student handout sheets sorted alphabetically by last name with the student's name and ID number printed on the top of the sheet.
**2 or B**   Student handout sheets sorted by student ID number. The student's name will not appear anywhere on this handout, so this option should be selected only when ID numbers are recorded properly.

**Item 8:  multiple group histograms**.  A histogram for all students is produced as standard output.  If you have indicated more than one group, darken this circle to obtain a histogram for each group:
**1 or A**   Print histogram for each group.

**Item 9: item analysis--distribution of responses/index of discrimination.** For item analysis, darken circles as follows:
**1 or A**   Produce distribution of responses table only.
**2 or B**   Produce distribution of responses table plus index of discrimination table.  (Note:  This option is not recommended for tests with fewer than 25 questions.  See "Discrimination" paragraph below.)

The distribution of responses table displays both the number and the percentage of responses for each answer choice.  The difficulty of a question can be determined from the percentage of students who mark the correct answer choice--the higher the percentage, the easier the question.  A general guideline for test construction is to have most items of moderate difficulty with a few easy ones and a few very difficult ones.

"Discrimination" is the ability of a test question to differentiate between those students who know the material and those who do not.  This is indicated by the correlation between the item score and the total score with a range from -1.0 to +1.0.  A positive correlation for the correct answer indicates that students who marked the question right have higher test scores.  Negative coefficients for wrong answers ("distractors") indicate that those were marked by students earning lower test scores.  If a distractor is never chosen, it should be replaced.  The combination of a positive correlation for the correct choice and negative correlations for the distractors demonstrates the test item discriminates properly.  On the other hand, any negative or near zero correlation for the correct answer may indicate the test question was poorly worded or the answer key was mismarked.  The longer the test, the more meaningful the index of discrimination because the item score contributes to the total test score.  ***The index of discrimination is not recommended as an option for tests with fewer than 25 items.***

**STANDARD OUTPUT.**  The following accompanies all tests and surveys, except as noted:
**Scanned data warning list (tests only).**  This list contains the sheet sequence number, ID number, last name, and form number of the students who have blank or double-coded responses, as well as warnings for errors in group, form, ID, and name.  This list will be produced for tests only when there are data warnings.  Data warnings often occur when students have neglected to darken responses using a soft lead (Number 2) pencil or because of incomplete erasures. Answer sheets showing a form error with a multiple form exam cannot be scored.

**Key sheet warning list (tests only).**  This list contains the form number, question number, and code for any items on the key left blank or double coded.  It will be produced for tests only when needed.  The professor should verify blank or double-coded warnings against the key sheet.

**General information**- this listing confirms the number of sheets scanned, number of students not scored, number of questions, number of groups, number of forms, guessing penalty applied, and whether or not the test uses weighted or scrambled questions.

**Descriptive statistics (tests only)**.  This table contains (for each form and the overall total within groups) the number of students, maximum and minimum number correct, the mean correct and mean number omitted, standard deviation of scores and standard deviation of number omitted, reliability estimate (KR-20), and standard error of measurement.

> **Mean:**  an average obtained by dividing the sum of a set of scores by the number of scores.
> **Standard deviation (S.D.):**  a measure of the spread of scores about the mean.  The tighter the scores cluster around the mean, the smaller the standard deviation.  In a normal distribution, approximately 68 percent of all scores fall within one S.D. below the mean and one S.D. above the mean.
> **Reliability estimate (KR-20):**  a measure of internal consistency.  The Kuder-Richardson formula 20 (KR-20) is derived from the proportion of those answering each item correctly and the standard deviation of the total scores.  If the test items have high intercorrelations and measure much the same characteristic, then the reliability coefficient will be high (closer to 1.0).  If the intercorrelations are low--either because items

measure different characteristics or because of error--then the reliability coefficient will be low (closer to zero).

**Standard error of measurement (S.E. Meas.):** the amount by which the score may differ from the hypothetical true score, if the student were to take the test over and over again under identical conditions. A score of 75 with a S.E. Meas. of 10 indicates that the student's "true" score would fall between 65 and 85 (or +/- 10 points) about 68 percent of the time. If the S.E. Meas. is low (closer to zero), the test is more reliable. If the S.E. Meas. is high (closer to the standard deviation of scores), the test is less reliable.

**Histogram of discrete scores (tests only).** A histogram is produced which includes a frequency and cumulative frequency count (number of students at each score level), the percentage for each score, and the cumulative percentage of each score. In addition to an overall histogram, multiple histograms are produced automatically for each form if the questions are not the same among forms. Also, a histogram can be produced for each group by marking item 8 on the header sheet (see page 5).

**Alphabetical listing (tests only).** An alphabetical listing of all students within groups is produced and includes name, ID number, score, percent correct, number of questions omitted, seat number, and form number. (Note: If a name is not in proper alphabetical sequence, the student may not have gridded the name correctly.)

**Student ID number listing (tests only).** This is similar to the alphabetical listing, except the name is dropped, and the list is sorted by ID number within groups. In keeping with the Family Educational Rights and Privacy Act of 1974, posting of grades requires a release from the student. Only the scores of those students who sign the grade release statement and darken the "YES" circle next to the statement will appear on the ID listing. (Note: When using Law School answer sheets with a "blind grading" number, this listing includes all students.)

**Distribution of responses table (surveys only).** This table displays both the number and the percentage of responses for each question. For multiple groups, a separate table is printed for each group only. (For tests, this is an optional output feature.)


# APPENDIX A
## (Determining Total Test Points in a Weighted Two-Part Test)

When the test includes a separate hand-scored portion (e.g., essay or short answer questions) the "percent correct" value for each student on the machine-scored portion can be artificially weighted. To calculate total test points (and the number of "extra" questions needed on the ANSWER GRID), you may use the method below:

Number of questions on the machine-scored portion of the test         _____ A

Weight given to the machine-scored portion of the test (range .01 to .99)     _____ B
(For example, if the machine-scored portion counts 60 percent of the
total test score, the value entered on line B is .60.)

Divide line A by line B to find TOTAL POINTS (max=200)          _____ C
Enter this number (line C) in the SEAT field on the header sheet.
Round decimal values to nearest whole number.

Subtract line A from line C to find number of "EXTRA" QUESTIONS     _____ D
Mark one answer response for each "extra" question (line D) on each key.
(Note: The actual number of questions on the hand-scored portion of
the test will not necessarily agree with line D.)

The number entered in the SEAT field on the header sheet cannot be less than the number of questions on the machine-scored portion of the test. Machine-scored percent correct values (only) are recalculated automatically. The scores themselves remain unchanged.