

## OPTICAL MARK READER SERVICE (SCANTRON SERVICES)

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### OVERVIEW

The Scanning Service operates an Optical Mark Reader that can be used for scoring multiple-choice exams and for data collection. The person (student, professor, and/or researcher) uses a pencil to place oval marks on the appropriate areas of a preprinted coding form. These forms are then scanned by the Optical Mark Reader converting the pencil marks into computer data files.

In case of the multiple-choice exams, the Scanning Service has software available to process the student responses and produce score results as well as several statistical analyses. These results and statistics are automatically sent to the e-mail provided on the Request form.

A “**Request for Optical Reading form**” and a stack of “**Scantron sheets**” are obtained from your department administration office. A master “**Answer Key Scantron sheet**” must be accompanied when dropping off your request for scanning services at the UCU 0024 docUcentre location from 8am to 5pm, Monday through Friday, or from 8am – 10:15pm during exam time period.

**Note** that we reserve the right to refuse any Scantron sheets that do not conform to the following specifications: Scantron sheets must...

- Not be bound by elastics, paper clips or staples, be torn or have punched holes
- Have no marks near the “timing marks area” (left hand side horizontal lines), and
- Have no stray marks on them
- (It is also preferred if pencil is used)

Improper coded forms that are damaged may not be read correctly. It could happen that the data for one field will be omitted, or the entire sheet could be unreadable.

### docUcentre SERVICES

1. Offer multiple-choice Scanning Services: Ability to...
  - Have more than one answer correct, and
  - Assign up to 5 points per question
2. Produce reports showing each students’ score: Providing ...
  - Raw values (based on #of questions), and
  - Percentage values (based on test’s percentage)

3. Produce reports in one or more possible ways: Sort by...
  - Student number (Numerical order) *without* name
  - Student number (Numerical order) *with* name
  - Alphabetical order with Student number
  
4. Produce statistical reports. Most popular are amongst the following:
  - **Item** (question) **summary** measuring level of difficulty and discrimination
  - **Frequency responses** covering the number of students versus correct answers
  - **Test analysis** covering basic statistics such as mean, median & mode, and minimum & maximum scores.
  - **Item analysis** dissecting the output for each question, displaying...
    - Number of students versus each possible answer
    - **Group analysis** that measures each groups' performance, horizontally, based on 3 levels. The total numbers of students are divided into a 3-tier group as Low (bottom 27%), middle (46%), and high (top 27%). The low and high values are then used to calculate **discrimination** which helps determine those questions that may be suspect to being weak, and therefore would be reviewed and perhaps replaced.
    - **Level of difficulty** indicating whether a question is easy or challenging.

**Note:** the item analysis is only appropriate with single choice answers and no weighing of items.

## GUIDES AVAILABLE

1. Request for Optical Reading (Scantron Service) Form
  - Covering questions you may have for each section of the form
  - Clarifying what to put for "Base %"
  - Distinguishing between options "Brut Data for Excel" & " Brut Data"
  
2. Scantron Master Answer Key Sheet(s)
  - Covering when questions are worth more than 1 point
  - Covering when more than 1 answer is correct for a question
  
3. Type of Reports – Statistical analysis
  - Providing professors with tools that can help improve the quality of their tests
  
4. HowTo Work with a Text File to make it Workable in Excel
  - A step by step guide with print screen images; "Finally! No more inputting data manually".