**EDP/EPE 711: Advanced Quantitative Methods –**

**Introduction to Rasch Measurment**

**Contact Information**

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**Web page:** <http://www.uky.edu/~kdbrad2/>

**Office Hours:** Tuesday and Thursday 12–1-and by appointment

\*\* I have an open office door policy… when my door is open, it is an invitation. \*\*

**Meeting Information**

Thursday, 9:30-12 in 140 Taylor Education Building

##### Required Text & Readings

# Bond & Fox (2007). Applying the Rasch Model, 2nd ed.

# Winsteps Manual, available for download at [www.winsteps.com](http://www.winsteps.com)

1. Rasch Measurement Transactions & SIG Activity; <http://www.rasch.org/rmt/>

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**required Software**

Winsteps will be used in instruction. The student version, Ministeps, is available to download, with no cost, at [www.winsteps.com](http://www.winsteps.com). You may purchase the full version for $149 from the same site. Depending on the size of your data set, you may need to purchase the full version, or see me about access to the full version. The student version has been loaded on all computers in TEB 140.

**Prerequisite**

EPE/EDP 557, 558, or an introductory statistics course and instructor permission OR EPE/EDP 660

##### Course Description

The purpose of the course is to introduce participants to the theory and applications of Rasch measurement and provide hands-on experience using Winsteps (or the student version Ministeps). The goal is to provide the necessary tools to become effective consumers of research employing Rasch measurement and the foundation to solve practical measurement problems.

##### Submission of Assignments

There are two options to complete your coursework: (1) a theoretical/conceptual approach and (2) an applied/practice approach. These options are not mutually exclusive. Work is due as assigned, and no late work will be accepted, besides in excused (institution and/or instructor approved) circumstances. Assignments may be submitted via email.

##### Attendance and Participation

Prior to each course meeting, you are responsible for downloading materials for that day from the website, [www.uky.edu/~kdbrad2](http://www.uky.edu/~kdbrad2) (locate current courses, select EPE 711). If you should have difficulty with this, please contact me prior to class. The course will be interactive in nature. You are expected to come to class, on-time, complete reading assignments, and participate in all activities. Unexcused absences (see S.R. 5.2.4.2) will be reflected in the participation grade.

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##### Course Assignments

**Notes: 1**Rubrics are available where applicable via the web page. **2**All work is due as indicated at the beginning of class, and no late work will be accepted, besides in extreme circumstances (pre-approved).

**\*\* You must submit your course plan to me. \*\***

**\*\* This will serve as a contract for the way you chose to complete the course assignments. \*\***

1. **Class Participation**: Complete weekly readings
   1. Option 1 – Participate in class discussions and activities \*\* This should be selected if possible
   2. Option 2 – Select a key topic (pre-approved) from the course readings and prepare an overview to be presented to the novice.
2. **Reading Journal:** Complete weekly class questions. Responses may be handwritten or typed. Keep responses in a notebook, folder, or binder to be submitted at the end of the semester. You may submit the journal at mid-term for formative feedback.
3. **Literature reaction:** Select a Rasch-related manuscript (pre-approved),
4. complete a literature reaction **(everyone must do)** and
5. present highlights to the class by
   1. Option 1 – Leading a mini-discussion on the article (10 minute maximum)
   2. Option 2 – Preparing a mini-PowerPoint presentation on the article (8 – 10 slides) that will be distributed to the class via email
6. **Final Exam:** 
   1. Option 1 – Take-home ‘exam’ assessing course components by response to key points made throughout the literature. It is available online now. It should be worked on throughout the semester and should be viewed as a cumulative assignment.
   2. Option 2 – Final Project conducting a Winsteps example with a data set of your choice. Use the rubric provided to complete the write up.
   3. Option 3 – Complete online training in Winsteps, Facets or other Rasch software or attend a 2-3 day workshop on Rasch measurement (training/workshop must be pre-approved). Verification of completion, along with a 1-2 page written summary of what was learned constitutes full credit.

##### Grading

Class Participation 10%

Reading Journal 25%

Literature Reaction 25%

Final Exam 40%

**Course grades will be earned as follows:**

**A:** 90% and above; **B:** 80 – 89 %; **C:** 70 – 79%; **E:** 69% and below

##### Academic Honesty

University of Kentucky Code of Student Rights and Responsibilities defines academic offenses and details procedures for dealing with them. The Code can be viewed electronically on the University's web site: <http://www.uky.edu/StudentAffairs/Code/part1.html>. All students are expected to be familiar with the content of the Code of Student Rights and Responsibilities.

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##### Tentative Course Schedule

**Note:**The reading assignments are to be completed prior to the class meeting listed.

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| --- | --- | --- | --- |
| **Week** | Topic | Assigned Reading | Special Notes |
| **1 – Jan 15** | No class meeting | | |
| **2 – Jan 22** | **Welcome to 'Introduction to Rasch Measurement'** | | |
| **3 – Jan 29** | Why Measurement? | Preface & Chapter 1 | **Submit Student Info Sheet** |
| **4 – Feb 5** | Principles of Measurement | Chapter 2 & 3 | **Submit Course Plan** |
| **5 – Feb 12** | Items & Invariance | Chapter 4 & 5 |  |
| **6 – Feb 19** | **Reading Week – No Formal Class Meeting** | | |
| **7 – Feb 26** | Introduction to Winsteps | Winsteps Manual | ***Important Day*** |
| **8 – Mar 5** | Likert Scale & Partial Credit Model | Chapter 6 & 7 | **Literature Reactions begin** |
| **9 – Mar 12** | Ability, Difficulty, & Beyond | Chapter 8 |  |
| **10 – Mar 19** | UK Spring Break – No Class Meeting | | |
| **11 – Mar 26** | Applications of the Model | Chapter 9, 10, & 11 |  |
| **12 – Apr 2** | Model Fit & Synthetic Overview | Chapter 12 & 13 |  |
| **13 – Apr 9** | Putting it into Practice | Appendix A & B |  |
| **14 – Apr 16** | **Reading & Research Day – No Formal Class Meeting** | | |
| **15 – Apr 23** | Applications and Practice | Winsteps Manual | Reading Journal Due |
| **16 – Apr 30** | Wrap up, Review & Questions | Course Materials |  |
| **Finals Week** | Submit Final Exam | | |

##### \*\* If weather cancellations occur, we may need to update course schedule.

##### Specifically, reading weeks may need to become meeting weeks. \*\*

##### Important Dates

See <http://www.uky.edu/Registrar/AcademicCalendar.htm> for spring session calendar, with key dates.

##### \* See website for additional information, including useful links.