Computer-Based Testing
PRE 998 – Spring 2007
Tuesday, 4:30 – 7:00 pm
JRP 720

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Tuesday 1:00 – 3:00 pm 640 JRP
By appointment or walk in if door is open

Text


Context of Course within the School of Education Mission

The primary mission of the School of Education is to prepare leaders in education and human services fields. As stated in the School Code:

Within the University, the School of Education serves Kansas, the nation, and the world by (1) preparing individuals to be leaders and practitioners in education and related human service fields, (2) expanding and deepening understanding of education as a fundamental human endeavor, and (3) helping society define and respond to its educational responsibilities and challenges.

The components that frame this mission for our initial and advanced programs are Research and Best Practice, Content Knowledge, and Professionalism. These interlocking themes build our Conceptual Framework.
Purpose of This Course

Computer-based testing holds the promise of increasing test validity and reliability while reducing the logistical problems associated with large-scale assessment. This seminar will provide an overview of what we have learned about administering tests on computer between the 1960s and today. The focus will be on measurement issues, but depending on class interest topics will vary. A prior course in item response theory is desirable but not required. Possible topics are grouped into major categories and include the following.

- Test models
  - Adaptive testing
  - Computerized classification testing
  - Diagnostic testing models
- Comparability of computer- and paper-based test scores
  - Multiple-choice
  - Constructed response
  - Direct measures of writing
- Computerized Scoring
  - Essay grading
  - Grading of quality of speech
  - Grading other traditional constructed response item types
  - Grading of innovative item types
- On-line Score Reporting
- Development and Maintenance of Tests and Item pools
  - Item pool evaluation and maintenance
  - Automated real-time test assembly
- Innovative item types
- Interface Design
  - General user interface issues
  - Use of adaptive devices to make tests more accessible to examinees with disabilities
  - Application of universal design principals
- Comparability of computer- and paper-administered tests
- Software Design
  - Test security features
  - Protecting data integrity
  - Response time issues
- Hardware and network issues
  - Architecting for system reliability and efficiency
- Commercially available products
  - For small-scale assessment
  - For large-scale assessment

Broad Course Objectives

- Students will learn the breadth of research topics associated with computer-based testing and be able to relate current research problems to prior issues
- Students will successfully conduct an in depth review of the literature on one or more topics
## Syllabus PRE 998 (Spring 2007)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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| 1 January 23 | Class will start early (4 pm) with a presentation from a candidate for a faculty position in Educational Psychology  
|           | • Review of syllabus and other administrative housekeeping          
|           | • History of computer-based testing                                  
|           | • Discussion and selection of topics                                 
|           | • Review of IRT                                                      |
| 2 January 30 | Chapters 1-4 in Parshall et alia: read and be prepared to discuss and ask questions |
| 3 February 6 | I will be out at ATP Conference (reschedule or use time to work on research review) |
| 4 February 13 | Report from ATP – what’s new                                        
|           | • Chapters 5-8 in Parshall et alia: read and be prepared to discuss and ask questions |
| 5 February 20 | Chapters 9-11 in Parshall et alia: read and be prepared to discuss and ask questions |
| 6 February 27 | In depth discussion of topic to be determined                        |
| 7 March 6   | In depth discussion of topic to be determined                        |
| 8 March 13  | In depth discussion of topic to be determined                        |
| March 20    | Spring Break                                                        |
| 9 March 27  | In depth discussion of topic to be determined                        |
| 10 April 3  | Room will be changed for this night only                             
|           | • In depth discussion of topic to be determined                      |
| 11 April 10 | I will be out (AERA Conference)                                     |
| 12 April 17 | In depth discussion of topic to be determined                        |
| 13 April 24 | In depth discussion of topic to be determined                        |
| 14 May 1    | In depth discussion of topic to be determined                        |
| 15 May 8    | In depth discussion of topic to be determined                        |

We will choose 12 topics to cover. Each person (including the professor) will choose 2 topics. For each topic you will

1. perform a review of the literature  
2. select a subset of papers (typically 5-10 research articles) for the class to read  
3. make copies or provide a PDF for me to post on Blackboard, and get to the class two weeks in advance of the discussion.  
4. lead a discussion of the topic  
5. submit a written review of the literature (APA style)
Evaluation and Grading

- Grading is A-F
- Grade will be based on a combination of class participation, facilitation of discussion of in-depth reviews, quality of the in-depth research review

Policies

Cheating: Any student found cheating will be given a 0 for that exam/project/assignment and reported to the Academic Dishonesty Committee.

Assignments: Students are expected to work by themselves. Any use of the ideas of another work must be cited appropriately. Any words of another should be clearly shown as such. Any degree of plagiarism is unacceptable and will be treated as cheating.

Attendance: All students are encouraged to attend class regularly as classroom participation is given significant weight in determining grades, but attendance is not mandatory. You do NOT need to notify me of absences.

Accommodations: The staff of Disabilities Resources, located in 22 Strong Hall, coordinates accommodations and services for KU courses. If you want accommodations and have not yet contacted them, please do so as soon as possible. Please also see me privately if you think accommodations are desirable.

Blackboard: I will use Blackboard to share notes, articles, and data.