Psychological Measurement
Psychology 415L
Spring Semester 2010

Class meets:  Mon. 10:00 – 11:50 AM @ GFS 228
            Wed. 10:00 – 11:50 @ SAL 127
Instructor: Richard S. John, Ph.D.
Office: SGM 621
Phone: 213-740-4011
Office Hrs. Mon. 12:00-1:00 PM and by appointment
E-mail: richardj@usc.edu

All assignments, readings, and grades will be posted on Blackboard:
http://blackboard.usc.edu

Catalog Description:
Psychology 415L (4 units). Introduction to classical and modern theories of
psychological measurement and testing; scaling; test construction; classical
true score reliability model; generalizability theory; validity; decision theoretic
approaches to selection; item analysis; item response theory; test scoring
and interpretation. Prerequisites: Psyc 314 or equivalent.

Required Texts:

DeVellis, R. F. (2003). Scale development: Theory and applications,

Grading:
Grades will be determined from 2 exams, each worth 15%, and 6 lab-projects,
each worth 10%. The lab-project assignments are designed to allow you to
apply measurement concepts and methods using actual data within a laboratory
context. Participation will also count 10% toward the final grade. All lab-
projects are due IN CLASS on the due date. Assignments must be submitted in
a printed form. A 10% penalty per day applies to all late assignments.

Statement for Students with Disabilities
Any student requesting academic accommodations based on a disability is
required to register with Disability Services and Programs (DSP) each
semester. A letter of verification for approved accommodations can be
obtained from DSP. Please be sure the letter is delivered to me (or to TA) as
early in the semester as possible. DSP is located in STU 301 and is open
8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

**Statement on Academic Integrity**

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one’s own academic work from misuse by others as well as to avoid using another’s work as one’s own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: [http://www.usc.edu/dept/publications/SCAMPUS/gov/](http://www.usc.edu/dept/publications/SCAMPUS/gov/). Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: [http://www.usc.edu/student-affairs/SJACS/](http://www.usc.edu/student-affairs/SJACS/).
# Psychological Measurement
## Psychology 415
### Spring Semester 2010

**Course Outline**

<table>
<thead>
<tr>
<th>Wk</th>
<th>Topic</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to psychometrics and measurement; Scaling</td>
<td>P1; S1</td>
</tr>
<tr>
<td>2</td>
<td>Statistical concepts for measurement; Test scores as composites; Test norms</td>
<td>P2; S2</td>
</tr>
<tr>
<td>3</td>
<td>Reliability and the classical true score model</td>
<td>P3; S3</td>
</tr>
<tr>
<td>4</td>
<td>Methods for estimating reliability</td>
<td>P4; S6</td>
</tr>
<tr>
<td>5</td>
<td>Reliability, measurement error, and attenuation; Test construction</td>
<td>P5; S3</td>
</tr>
<tr>
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<td>Reliability for criterion-referenced tests</td>
<td>P7</td>
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</tbody>
</table>

*Midterm Exam*

| 6  | Validity concepts                                                     | P8; S4  |
| 7  | Estimating validity; method variance                                 | P9      |
| 8  | Decision analytic approaches to selection, ROCs, utility, sensitivity and specificity | P9      |
| 9  | Test dimensionality; factor analysis                                 | P4; S6  |
| 10 | Response biases: acquiescence bias, social desirability, Random responding, guessing | P10; S5 |
| 11 | Item analysis, differential item functioning analyses                 | P11     |
|    | Predictive Biases                                                     |         |
|    | Setting standards; norms and standard scores; Equating scores from different tests |         |
| 12 | Generalizability Theory                                              | P12     |
|    | Facets of measurement; variance components; G & D studies; one-facet design |         |
13 Conducting and interpreting generalizability studies
   Two-facet designs; random vs. fixed facets;
   Crossed vs. nested designs

14 Item Response Theory & Rasch Models
   Respondent trait level, item difficulty, and
   Item discrimination determine item responses;
   IRT measurement models

15 Item characteristic curves;
   Applications to test development, DIF, CAP

*Final Exam*