**Rutgers, The State University of New Jersey**
**Graduate School of Education**

15:291:511:03 Introduction to Assessment, Applied Statistics and Research
Fall 2011
Wednesday, 4:50-7:30, GSE: ED 025A

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**Course Description:** This course will provide an overview of basics concepts and issues involved in (1) testing & assessment, (2) applied statistics, and (3) research within the perspective and context of the role of human service professionals. The course will examine statistical concepts and terms related to evidence-based practice and evaluation, testing and assessment relevant for mental health professionals including school counselors, and applied social research procedures and practices. Attention will be devoted to increasing your practical understanding and consumer utilization of statistics, testing & assessment, and research.

**Course Objectives:** The course is designed to provide students with curricular experiences and demonstrated knowledge in basic statistics, testing & assessment, and research and program evaluation. As a result of this course students will have acquired knowledge and skills relevant to the Assessment (CACREP II K7 a thru i) and Research and Program Evaluation (CACREP II K8 a thru f) as defined by CACREP 2001 Standards.

ASSESSMENT - studies that provide an understanding of individual and group approaches to assessment and evaluation, including all of the following:

  7a. historical perspectives concerning the nature and meaning of assessment;

  7b. basic concepts of standardized and nonstandardized testing and other assessment techniques including norm-referenced and criterion-referenced assessment, environmental assessment, performance assessment, individual and group test and inventory methods, behavioral observations, and computer-managed and computer-assisted methods;

  7c. statistical concepts, including scales of measurement, measures of central tendency, indices of variability, shapes and types of distributions, and correlations;

  7d. reliability (i.e., theory of measurement error, models of reliability, and the use of reliability information);

7e.  validity (i.e., evidence of validity, types of validity, and the relationship between reliability and validity;

7f.  age, gender, sexual orientation, ethnicity, language, disability, culture, spirituality, and other factors related to the assessment and evaluation of individuals, groups, and specific populations;

7g.  strategies for selecting, administering, and interpreting assessment and evaluation instruments and techniques in counseling;

7h.  an understanding of general principles and methods of case  conceptualization, assessment, and/or diagnoses of mental and emotional status; and

7i.  ethical and legal considerations.

RESEARCH AND PROGRAM EVALUATION - studies that provide an understanding of research methods, statistical analysis, needs assessment, and program evaluation, including all of the following:

8a.  the importance of research and opportunities and difficulties in conducting research in the counseling profession,

8b.  research methods such as qualitative, quantitative, single-case designs, action research, and outcome-based research;

8c.  use of technology and statistical methods in conducting research and program evaluation, assuming basic computer literacy;

8d.  principles, models, and applications of needs assessment, program evaluation, and use of findings to effect program modifications;

8e.  use of research to improve counseling effectiveness; and

8f.  ethical and legal considerations.

**Teaching Philosophy:** I believe that students learn as a result of active engagement in the learning process.  It is my responsibility as a teacher to provide a supportive, culturally sensitive atmosphere conducive to learning.  I believe that my function and role is to provide knowledge relevant to theory, research, and practice in the course content area.  Furthermore, it is my function to facilitate an interactive learning environment that provides students the opportunity to demonstrate acquisition; synthesis, integration, and application of course content area.  As an instructor I believe that the learning process requires a condition of "*shared-responsibility*," that is, both students and I are expected

and obligated to actively approach and achieve the goals and objectives set forth in the course.  I recognize that this principle of *"shared-responsibility"* dictates that I as your teacher create a fluid, dynamic, and circular feedback process for adjusting and/or modifying the goals and objectives as defined by the changing needs and interests of the students whenever possible.

**Methods of Instruction:** You may be exposed to a variety of learning models which may include: lecture; experiential exercises; interpersonal interactions with students, faculty and/or guests; small and large group discussion; power point presentations; reading assignments; homework assignments; writing/reflection assignments; review of research via counseling-related journals; SPSS; use of internet resources; and quizzes and/or tests.

**Required Texts:**

**Statistics:**

> Rubin, A. (2010). *Statistics for Evidence-Based Practice and Evaluation* (2nd ed.). Belmont, CA: Thomson Brooks/Cole.

**Testing & Assessment and Research** - a package combined textbook including selected chapters from the following two texts: **(Note: Specialized textbook is being processed.)**

> Monette, D. R., Sullivan, T. J., & DeJong, C. R. (2011). *Applied Social Research: A Tool for the Human Services* (7th ed.). Belmont, CA: Thomson Brooks/Cole.

> Neukrug, E. S. & Fawcett, R. C. (2010). *Essentials of Testing & Assessment: A Practical Guide for Counselors, Social Workers, and Psychologists* (2nd ed.). Belmont, CA: Brooks/Cole Cengage Learning.

## Journal Articles

Bemak, F., Chung, R. C., & Siroskey-Sabdo, L. A. (2005). Empowerment groups for academic success: An innovative approach to prevent high school failure for at-risk, urban African. *Professional School Counseling, 8*, 377-389.

Chata, C. C., & Loesch, L. C. (2007). Future school principals' views of the roles of professional school counselors. *Professional School Counseling, 11*, 35-41.

Cholewa, B., & West-Olatunji, C. (2008). Exploring the relationship among cultural discontinuity, psychological distress, and academic outcomes with low-income, culturally diverse students. *Professional School Counseling, 12*, 54-61.

Lapan, R. T., Aoyagi, M., & Kayson, M. (2007). Helping rural adolescents make successful postsecondary transitions: A Longitudinal study. *Professional School Counseling, 10*, 266-272.

Miranda, A., Webb, L., Brigman, G., & Peluso, P. (2007). Student success skills: A promising program to close the academic achievement gap for African American and Latino students. *Professional School Counseling, 10*, 490-497.

Moore-Thomas, C., & Lent, R. W. (2007). Middle school students' expectations about counseling. *Professional School Counseling, 10*, 410-418.

Schwallie-Giddis, P., Anstrom, K., Sánchez, P., Sardi, V. A., & Granato, L. (2004). Counseling the linguistically and culturally diverse student: Meeting school counselors' professional development needs. *Professional School Counseling, 8*, 15-23.

Sciarra, D. T., & Seirup, H. J. (2008). The multidimensionality of school engagement and math achievement among racial groups. *Professional School Counseling, 11*, 218-228.

Turner, S. L. (2007). Preparing inner-city adolescents to transition into high school. *Professional School Counseling, 10*, 245-252.

Turner, S. L., Conkel, J. L., Reich, A. N., Trotter, M. J., & Siewart, J. J. (2006). Social skills efficacy and proactivity among Native American adolescents. *Professional School Counseling, 10*, 189-194

Uwah, C. J., McMahon, H. G., & Furlow, C. F. (2008). School belonging, educational aspirations, and academic self-efficacy among African American male high school students: Implications for school counselors. *Professional School Counseling, 11*, 296-305.

Villalba, J. A., Akos, P., Keeter, K., & Ames, A. (2007). Promoting Latino student achievement and development through the ASCA National Model. *Professional School Counseling, 10*, 464-472.

Whiston, S. C., & Aricak, O. T. (2008). Development and initial investigation of the School Counseling Program Evaluation Scale. *Professional School Counseling, 11*, 253-261.

## Additional Selected Bibliography and Resources

Hadley, R. G., & Mitchell, L. K. (1995). *Counseling Research and Program Evaluation*. Pacific Grove, CA: Brooks/Cole.

Heppner, P. P., Kivlighan, D. M., & Wampold, B. E. (2008). *Research Design in Counseling* (3rd ed.). Pacific Grove, CA: Brooks/Cole Cengage Learning.

Yuen, F. K., & Terao, K. L. (2003). *Practical Grant Writing and Program Evaluation* (1st ed.). Pacific Grove, CA: Brooks/Cole Cengage Learning.

Whiston, S. C. (2009). *Principles and Applications of Assessment in Counseling* (3rd ed.). Pacific Grove, CA: Brooks/Cole Cengage Learning.

Cohen, R. J., & Swerdlik, M. (2009). *Psychological Testing and Assessment: An Introduction to Tests and Measurement* (7th ed.). City, State: McGraw-Hill.

### Course Expectations

**Attendance & Process**: This course will involve both didactic and experiential components to facilitate learning.  Regular attendance is mandatory since much of the course is based on lecture, discussion, and in-class exercises that cannot be made up. ***Your grade will be dropped a letter grade if you miss three or more classes.*** For example, if a student currently has an "A" in the class and misses 3 classes, the student grade will be changed to a "B". The process and outcome of this class will depend on each of our contributions. Thus, each class member is asked to be ready and committed to explore course topics through participation in class discussions, in-class activities, and completion of assignments.

**Readings**: Students are expected to read assigned material **BEFORE** class and come prepared to discuss the topic(s). Your active participation during each class session will contribute to the learning process for all involved. The more each of us gives, the richer the experiences will be for all of us. Come to class prepared to raise questions, discuss topics and participate in class activities. Additional readings may be assigned throughout the course. I realize that oftentimes students may experience anxiety about statistics and research courses. If you experience such a response please let me know. I want to offer suggestions for how you might decrease or eliminate your anxiety. Also, I want your learning experience to be as positive as possible! ☺

**Expectations of Professionalism:** Student Rights and Responsibilities:
1. To ask for clarification at any time.
2. Secure, activate and frequently check your email.
3. Attend class on time; late arrivals disrupt the learning environment.
4. Have access to all required textbooks, assigned articles, and other materials.
5. Have access to and utilize the world wide web/internet
6. Turn-off cell phones; or change setting to vibrate if expecting an emergency call.
7. Be courteous and treat all persons in the classroom with respect; different opinions will be shared/expressed to the extent that not everyone will be in agreement (i.e., cultural, environmental differences).
8. Students have the right to express opinions in a respectful and timely manner.
9. Confrontations will be presented professionally; remember that counselors are advocates for conflict resolution (Feedback stem: What worked for me was…What didn't work for me was…).
10. Students with known physical/mental limitations must contact Disability Services and the instructor at the beginning of the semester so that accommodations can be arranged.

**Academic Integrity:** Students are responsible for understanding the principles of academic integrity fully and abiding by them in all their work at the University. Students are also encouraged to report alleged violations of academic integrity to the faculty member teaching the course in which the violation is alleged to have occurred. See http://academicintegrity.rutgers.edu/integrity.shtml for detailed specifications.

## COURSE READINGS, ASSIGNMENTS & ACTIVITIES

**Course Schedule Outline:** The course schedule, requirements, procedures, contents, etc. provide a general plan for the course; deviations may be necessary once the course is underway. Students will be informed of any changes during regular class meetings. It will be each student's responsibility to stay informed of any changes.

| Date | Reading | Topics | Assignments |
|------|---------|--------|-------------|
| Sept. 7 | Rubin 1, 2, 3 | [1] Why Study Statistics? [2] Use of Statistics in Evidence-Based Practice [3] Review of Key Research Methodology Concepts and Terms | |
| Sept. 14 | Rubin 4, 5, 6 | [4] Frequency Distributions [5] Graphs and Charts [6] Measures of Central Tendency | |
| Sept. 21 | Rubin 7, 8 | [7] Measures of Dispersion [8] Normal Distributions | SPSS Introduction & Exercises |
| Sept. 28 | Rubin 9, 11 | [9] z-Scores, Percentiles, and Effect Size [11] Hypothesis Testing and Statistical Significance | SPSS Exercises  **STAR #1 Due** |
| Oct. 5 | Rubin 12, 13 | [12] Type I and Type II Errors [13] Interpreting the Strength and Importance of Relationships | SPSS Exercises  **Exam #1 Due** |
| Oct. 12 | Rubin 15, 17 | [15] Analysis of Variance [17] Correlation | SPSS Exercises |
| Oct. 19 | NF 3, 5 | [3] Test Worthiness: Validity, Reliability, Practicality, and Cross-Cultural Fairness [5] Statistical Concepts: Creating New Scores to Interpret Test Data | |
| Oct. 26 | NF 6 Appendices B | [6] Assessment of Educational Ability: Survey Battery, Diagnostic, Readiness, and Cognitive Ability Tests [App B] Assessment Sections of ACA's and APA's Codes of Ethics | |
| Nov. 2 | NF 7 Appendices C | [7] Intellectual and Cognitive Functioning: Intelligence Testing and Neuropsychological Assessment  [App C] Code of Fair Testing Practices in Education | **STAR #2 Due** |

| Nov. 9 | NF 10, 12 | [10] Informal Assessment: Observation, Rating Scales, Classification Methods, Environmental Assessment, Records and Personal Documents, and Performance-Based Assessment<br>[12] The Assessment Report Process | **Exam #2 Due** |
|---|---|---|---|
| Nov. 16 | MSD 1, 2 | [1] Research in the Human Services<br>[2] The Logic of Social Research | |
| **Monday, Nov. 21** | MSD 4, 7 | [4] Issues in Problem Formulation<br>[7] Survey Research | |
| Nov. 30 | MSD 9 | [9] Field Research and Qualitative Methods | |
| Dec. 7 | MSD 10 | [10] Experimental Research | **STAR #3 Due** |
| Dec. 14 | MSD 11, 12 | [11] Single-System Designs<br>[12] Evaluation Research | |
| **Dec. 21** | **No Class** | **No Class** | **Exam #3 Due** |

## Course Requirements & Assignments

**Student Class Participation:** Students are expected to attend class, be prepared to discuss all readings, and participate in the classroom discussions and exercises.

**Readings, Assignments, & Tests/Examinations:** Students are expected to read assigned text chapters, journal articles, and demonstrate their knowledge of statistics, testing & assessment and research. Students' course grade performance will be evaluated based on completing home-based examinations, journal article readings, SPSS activity exercises, and integration STAR paper during the semester. The course is intentionally designed to offer students multiple methods for demonstrating awareness, knowledge and application skills of statistics, testing & assessment and research.

**Integration STAR Paper:** Students are expected to write a research proposal based on a topic related to your graduate program of study and your anticipated professional career position. Your final topic must be approved by the instructor. Your research proposal must include the following sections: Introduction, Data Analysis, Methods, Results, Discussion (which includes Implications and Conclusion). The primary objective of this assignment is for you to utilize what you are learning about statistics, research, as well as testing & assessment in this course. As a result your research proposal will need to be modified several times during the semester to incorporate new approach to methodology, statistical analyses, revised assessment measures, and anticipated hypothetical Results and related Discussion. Your STAR #1 paper will be due on September 28, 2011, STAR #2 will be due on November 2, 2011 and final STAR #3 will be due on December 7, 2011. You will receive additional instructions and guidelines for this assignment throughout the semester.

## Performance Evaluation and Grading

**Evaluation:**

| Task/Assignment | | Points |
|---|---|---|
| Class Participation & Readings | (10%) | 100 |
| Integration STAR Paper | (40%) | 300 |
| SPSS Activity & Exercises | (10%) | 100 |
| Examinations (3) | (40%) | 300 |

Total possible points: 800

| Course Grade | Total Points |
|---|---|
| A | 800 - 720 points |
| B | 719 - 640 points |
| C | 639 - 560 points |
| F | <= 559 |

### Self-Assessment Evaluation of Course Participation & Readings

| Points Possible | Description | Points Received |
|---|---|---|
| 0 – 12 points | -Does not ask questions or make comments that indicate familiarity with topics for course<br>-Does not participate actively or take risks during course<br>-Misses course often<br>-Is often late or leaves early w/out due reason | |
| 13 – 25 points | -Rarely asks questions or makes comments that indicate familiarity with the topics suggesting not being prepared for course<br>-Does not actively participate or take risks throughout course<br>-Misses no more than 1 course meeting w/o prior arrangement<br>-Is occasionally late or leaves early w/out due reason | |
| 26 – 38 points | -Occasionally asks questions or makes observations that indicate reflections, some familiarity and knowledge of course readings<br>-Moderately participates actively and take risks throughout course<br>-Misses 1 course meeting with prior arrangement<br>-Is never late or leaves early w/out due reason | |
| 39 – 50 points | -Regularly asks questions or makes observations that indicate reflection, familiarity and knowledge of course readings<br>-Consistently participates actively and takes risks throughout course<br>-Attends course regularly (no missed course meetings) | |