KINS 3830 Measurement and Evaluation in Exercise Science
(Ex. Sci. Section)

I. Course Description

Methods in measuring and evaluating physical performance, knowledge, and attitudes; procedures for evaluating tests and their results; data analysis techniques.

II. Prerequisite

Permission of major.

III. Instructor Information

Dr. Ted Baumgartner, 115J Ramsey Center, ph.: 706-542-4424,
e-mail: tbaumgar@uga.edu , office hours: almost any time not in class

IV. Course Objectives - At the conclusion of this course the student should be able to:

1. Define in their own words each of the descriptive statistics discussed in the class.

2. Select the appropriate descriptive statistic for a situation, calculate it by hand and/or obtain it by using a computer, and interpret it correctly.

3. Describe and use the steps in hypothesis testing.

4. Select the correct statistical test for a situation, calculate it by hand and/or obtain it by using a computer, and interpret it correctly.

5. Describe why prediction/regression techniques are used in exercise science.

6. Analyze data with prediction/regression techniques using a computer, and interpret the output from the computer correctly.

7. Discuss the differences between formative and summative evaluation, and norm and criterion referenced standards.

8. Identify when formative and summative evaluation and norm and criterion referenced standards are appropriate.

9. Define and explain objectivity, reliability, and validity

10. Calculate estimates of objectivity, reliability, and validity and interpret them correctly.

11. Define and discuss things to consider when designing a measurement program and measuring individuals.

12. Identify and/or design a good measurement protocol.

13. Discuss fitness testing of youth, adults, and the elderly.

14. Identify the basic procedures in knowledge test construction and analysis.

V. Topical Outline (usually two topics are covered each week like 1-A,B the 1st week)

1. Descriptive Statistics
   A. Data types
   B. Using a calculator and/or a computer for data analysis
   C. Sampling techniques
   D. Organizing data
   E. Measures of central tendency
   F. Measures of variability
   G. Measures of position
   H. Standard scores

   TEST 1

2. Inferential Statistical Tests
   A. Hypothesis testing procedure
   B. One sample t-test
   C. Two independent groups t-test
   D. Statistical power
   E. Repeated measures t-test
   F. Simple or one-way ANOVA
   G. Two group comparison techniques
   H. Repeated measures ANOVA

   TEST 2

   I. Chi-square tests
   J. Non-parametric tests

3. Correlation and Prediction/Regression
   A. Measures of relationship
   B. Simple prediction/regression
   C. Using a computer for data analysis
   D. Multiple prediction/regression

   TEST 3

4. Introduction to Measurement and Evaluation
   A. Formative and summative evaluation
   B. Norm referenced and criterion referenced standards

5. Essential Characteristics of Data & Interpretation of Data
   A. Objectivity techniques
   B. Reliability techniques
   C. Validity techniques
6. Measurement Programs and Protocols
   A. Planning the program or protocol
   B. Measuring individuals
   C. Final considerations

7. Overview of Selected Topics
   A. Standard setting
   B. Basic physical abilities
   C. Youth fitness testing
   D. Knowledge testing and questionnaire use

TEST 4 During Final Exam Period

VI. Evaluation

1. Criteria
   A. Exams (4) - 90% [60 points possible] [Make-up tests possible with excuse]
   B. Quizzes and computer projects - 10% [7 points possible] [Quiz missed may be excused if the instructor is e-mailed within 2 class meetings with a reason for missing the quiz acceptable to the instructor]
2. Standards
   A. A: 80% of total points [12-15 points on a test] [53.6-67 total points]
   B. B: 65% of total points [10-11 points on a test] [43.6-53.5 total points]
   C. C: 55% of total points [8-9 points on a test] [36.9-43.5 total points]
   D. D: 40% of total points [6-7 points on a test] [26.8-36.8 total points]
   E. F: less than 40% of the total points [0-5 on a test] [0-26.7 total points]
   F. I: failure to turn in all computer assignments within 9 class days of when assigned and/or failure to complete all required assignments within 6 class days of when assigned
   G. W: Withdrawn from the class by the instructor for excessive number of unexcused absences from class

VII. Attendance Policy

Students are expected to be in class each day and on time for class. Things do occur so the student must miss class and getting to class on time is difficult on this campus if the student must go any distance between classes. However, the student must make an effort to attend class regularly and be on time to class. Not attending class regularly will detract from the education and grade of the student as well as establish a poor image of the student with the instructor.

NOTE, roll will be taken at the beginning of the class. More than six unexcused absences are grounds for the instructor withdrawing you from the class (grade of W) (see III. 2, Standards in this handout). In the University of Georgia Undergraduate Bulletin, is the following

statement: Students are expected to attend classes regularly. A student who incurs an excessive number of absences may be withdrawn from a class at the discretion of the professor.

VIII. Required Assignments

1. Turn in the biographical information sheet by the end of the 2nd full week of classes.
2. Turn in computer assignments when assigned.

IX. Honesty Policy

Students in this course are expected to conform to the University Honor Code and Academic Honesty Policy. All academic work must meet the standards contained in "A Culture of Honesty." Students are responsible for informing themselves about those standards before performing any academic work. Academic honesty means performing all academic work without plagiarism, cheating, lying, tampering, stealing, receiving unauthorized or illegitimate assistance from any other person, or using any sources of information that is not common knowledge. Students who assist other students in academically dishonest acts are in violation of the policy. Consequences of academic dishonesty may vary from receiving a lower grade to expulsion from the University. **Particularly in this course, doing computer projects with any assistance (data entry, SPSS directions, etc.) from another student is academic dishonesty.** A Culture of Honesty may be viewed at the following web site: http://www.uga.edu/ovpi/honesty/academic.htm

X. Textbooks and Course Materials

1. Required: Kuzma, J.W. & Bohnenblust, S. E. (2005). *Basic statistics for the health sciences* (5th ed.).Dubuque, IA: McGraw-Hill.

2. Required: Baumgartner, T.A., Jackson, A.S., Mahar, M. T., & Rowe, D. A. (2007). *Measurement for evaluation in physical education and exercise science* 8th ed.). Dubuque, IA: McGraw-Hill.

3. Required: Course packet at a copy service.

XI. Disclaimer

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.