Course Number: lecture (428 M2120, 3 credit hours)

Course Name: Applied Statistics

Course Credit: 3 credit

Instructors: Jiu-jenq Lin (principal instructor), Huei-Ming Chai

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Year Level: Graduate students, no audit allowed.

Schedule & Place : Tuesday morning (8:10－11:10), room 210

Course Description:

This course introduces the basic statistical methods including descriptive statistics, hypothesis testing, and analysis of variance applied in Physical Therapy research. Instead of statistical calculations, the focus is on the interpretation of the statistical results.

General Objectives of the Course:

After completing this course, the students would be able to

1.  understand the common statistical methods applied in Physical Therapy.

2.  independently calculate and interpret the results of statistical methods using SPSS or SAS programs.

3.  have the ability to apply statistical methods to evaluate the research articles.

Contents:

| Time | Topic | Instructor |
|------|-------|-----------|
| 9/14 | Course Introduction | Jiu-jenq Lin |
| 9/21 | Descriptive statistics I Ch. 17(P) 2(H) | Jiu-jenq Lin |
| 9/28 | Descriptive statistics II Ch. 17(P) 2(H) | Jiu-jenq Lin |
| 10/5 | Hypothesis testing I Ch. 18(P) 7and 8(H) | Jiu-jenq Lin |
| 10/12 | Hypothesis testing II Ch. 18(P) 7and 8(H) | Jiu-jenq Lin |
| 10/19 | T-test Ch. 19(P) 10(H) | Jiu-jenq Lin |
| 10/26 | ANOVA I Ch. 20 and 21(P) 11-14(H) | Jiu-jenq Lin |
| 11/2 | ANOVA II Ch. 20 and 21(P) 11-14(H) | Jiu-jenq Lin |
| 11/9 | Mid-term Exam | Jiu-jenq Lin |
| 11/16 | RMANOVA I Ch. 20 and 21(P) 11-14(H) | Jiu-jenq Lin |
| 11/23 | RMANOVA II Ch. 20 and 21(P) 11-14(H) | Jiu-jenq Lin |
| 11/30 | SAS Software I | Huei-Ming Chai |
| 12/7 | SAS Software II | Huei-Ming Chai |
| 12/14 | Student Presentation I | Jiu-jenq Lin, Huei-Ming Chai |
| 12/21 | Student Presentation II | Jiu-jenq Lin, Huei-Ming Chai |
| 12/28 | Student Presentation III | Jiu-jenq Lin, Huei-Ming Chai |
| 1/4 | Critique | Jiu-jenq Lin |

Textbooks and References

1. Portney LG, Watkins MP. Foundations of clinical research: Applications to practice. 3$^{rd}$ ed. Upper Saddle River: Prentice-Hall, Inc., 2009.

 2. Huck SW. Reading statistics and research. 5$^{th}$ ed. Addison Wesley Longman, Inc., 2008.

Grading System:

mid-term examination 40%, homework 20%, final report 40%