Form (H)
Short course description

Course title: Longitudinal of Data Analysis	Course number and code: STAT 440
Previous course requirement: STAT 438	Language of the course: English or Arabic
Course level:8 / Year 4	Effective hours:3 (2+0+2)

Course description

Exploring longitudinal data. Analysis of variance for repeated measures. Single-Group Repeated Measures. Crossover Designs and Parallel Group. General Linear Mixed Models. Generalized Linear Models for Longitudinal Data. MLE and Restricted/Residual Maximum Likelihood Estimation (REML). Multilevel Models. ;Using GLM - MIXED and GENMOD in SAS

Course objectives

• Understanding the concept of methods for the analysis of repeated measures and longitudinal data, with a strong emphasis on applications in the biological and health sciences. • Understanding how to select the best methods to analysis longitudinal data • Writing the statistical reports
Learn who to select statistical method
Carry an appropriate statistical analysis

Learning outcomes (understanding, knowledge, and intellectual and scientific skills)
After studying this course, the student is expected to be able to:

Students get familiar with the use of well-known Statistical packages
In general, they know how to use Statistics for a given data set

Textbook adopted and supporting references

Title of the book	Author's name	Publisher's name	Date of publication
Applied Longitudinal Analysis	Garrett Fitzmaurice, Nan Laird & James Ware Publisher: John Wiley & Sons, June 2004 http://biosun1.harvard.edu/~fitzmaur/ala/	Prentice Hall	2004
Analysis of Longitudinal Data	http://www.amazon.com/Analysis-Longitudinal-Data-Peter-Diggle/dp/0198524846#reader_0198524846	Oxford	2013
SAS Documentations	http://www.ats.ucla.edu/stat/seminars/default.htm	SAS	2018
التحليل الإحصائي متعدد المتغيرات باستخدام حزم ساس (SAS)	أ. د. هشام مصطفى النشواتي أ. د. خلف سلمان سلطان أ. د. عبد الحميد عبد الله الزيد	KSU	2017