Module Description

University of AL-Kafeel / College.................. Academic Year (2020-2021)

Stage:	First stage
Specialization:	Pharmacy
Name of the Course in Arabic	الرياضيات والاحصاء
Name of the Course in English	Mathematics and Biostatistics
Goals:	• Upon completion of the course students will be able to understand the applications of mathematics and statistics in medical field.
Description	The course deals with the concept of basic mathematics and application of biostatistics in the medical field, In addition to its importance when conducting any medical research
Number of Theoretical lectures	3
Number of Practical lectures	-
Credits	3
Name of Instructor in Arabic	عذراء محمد ضياء حسون
Name of Instructor in English	Athraa Mohammed Dheyaa Hasoon
Title	مدرس مساعد
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Curriculum / Theoretical:

Week	Syllabus
1	Mathematics: General concepts; coordinate and graph in plane; inequality; absolute value or magnitude.
2	Function and their graphs; displacement function; slope and equation for lines.
3	Limits and continuity: Limits; theorem of limits; limit involving infinity; continuity; continuity conditions.
4	Derivatives: Line tangent and derivatives; differentiation rules; derivative of trigonometric function; practice exercises.
5	Integration: Indefinite integrals; rules for indefinite integrals; integration formulas for basic trigonometric function.
6	Definite integrals; properties of definite integrals; practice exercises.
7	Biostatistics: General concepts of statistics; statistical methods; statistical theory; applied statistics; statistical operations.
8	Probability concepts: Properties of probability; Set theory and set notation (basic notation); counting techniques- permutations and combinations; calculating the probability of an events.
9	Probability distribution of discrete variable; binomial distribution, Poisson distribution; continues probability distribution and normal distribution, review questions and exercises.
10	The concept of central tendency: Mean of sample and mean of population; median; mode; measure of central tendency; review questions and exercises.
11	Deviations and variation: Deviation; dispersion and variability; standard deviation and variance; coefficient of variations.
12	Standard error; correlation analysis; (regression model and sample regression equation); application of statistic in medical field; review questions and exercises.

References :

Main References :

[1] Finny RI, Thomas GB (Eds.) calculus and Analytical Geometry

[2] Daniel WW (ED.), Foundation for Analysis in the health Science, (latest edition)

Secondary References:

[1] CalCulus

[2] المفاهيم الاساسية في الاحصاء الحيوي