

Suggested research topics

Winter semester of the academic year 2019/2020

Course name in Arabic: إحصاء تطبيقي
Course name in English: Applied Statistics
Dr.: Mohamed Khalifa
Level: Third
Department: Aquaculture – Fish Processing and Biotechnology

No.	Research title	Research items
1	Sampling and types of samples	<ol style="list-style-type: none"> 1- Sampling frame 2- Sampling methods 3- Sample size determination 4- Sampling and data collection 5- Applications of sampling
2	Sampling Distributions	<ol style="list-style-type: none"> 1- Introduction 2- Distribution of the sample mean 3- Distribution of the sample proportion 4- Examples 5- Statistical inference
3	Normal Distribution	<ol style="list-style-type: none"> 1-Definition 2-Properties 3-Related distributions 4-Applications
4	t- Distribution	<ol style="list-style-type: none"> 1-Definition 2-Properties 3-Related distributions 4-Uses
5	Confidence intervals for population mean	<ol style="list-style-type: none"> 1- Introduction 2- Meaning and interpretation 3- Examples 4-Determination of sample size for estimating means 5- Alternatives and critiques
6	Confidence intervals for population proportion	<ol style="list-style-type: none"> 1- Introduction 2- Meaning and interpretation 3- Examples 4-Determination of sample size for estimating proportion 5- Alternatives and critiques
7	t-test	<ol style="list-style-type: none"> 1-History 2-Uses 3-Assumptions 4-Unpaired and paired two-sample t-tests 5-Calculations 6-Worked examples
8	ANOVA test	<ol style="list-style-type: none"> 1-History 2-Uses 3- Classes of models 4-Assumptions 5-Characteristics 6- Logic 7- For a single factor 8- For multiple factors 9-Worked examples

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No.	Research title	Research items
9	Chi Square test	1- History 2- Other examples of chi-squared tests 3- Yates's correction for continuity 4- Example chi-squared test for categorical data 5- Applications
10	Statistical Process Control	1- History 2- Variation in manufacturing 3- Application of Statistical Process Control 4- Mathematics of control charts

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