Module: Data Analytics Foundation 361

Module name:	Data Analytics Foundation 361
Code:	DAF361
NQF level:	6
Type:	Speciality – Diploma in Information Technology (Data Analytics)
Contact Time:	90 hours
Structured time:	15 hours
Self-directed time:	45 hours
Notional hours:	150 hours
Credits:	15
Prerequisites:	STA161

Purpose

The course covers Business statistics. It provides an array of statistical methods to understand and provide insight using data about the subject of interest. Also, it provides informed understanding of how business decision-making can be informed by data. The student will learn how to use different analysis tools, understand how to perform different tests, and the best practices, rules and conditions for applying these tests through a project.

Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- Demonstrate an informed understanding of the various data analysis t-test tools, and an informed understanding of the key concepts, general principles, rules, and guidelines for performing the selected t-test.
- The ability to evaluate, select and apply appropriate data analysis tests based on the form and nature of data.
- The ability to identify and analyse data extracted from unfamiliar contexts, gather evidence and communicate the result of the analysis based on procedures appropriate within the given context.
- The ability to present and communicate complex information reliably and coherently using appropriate professional conventions, formats, and technologies for presenting the result from the selected data analysis method.

Assessment

- Continuous evaluation of theoretical work through written two assignments, a project, three formative, and a summative test.
- Final assessment through a written examination.

Teaching and Learning

Learning materials

Prescribed books (EBSCO)

- 🕮 ***Nelson. S. L., and Nelson E.C., (2014) Excel Data Analysis For Dummies. John Wiley & Sons, Inc., Hoboken, New Jersey***

Learning activities

The teaching style will combine practical and theory elements into the daily activities during this module. It is a collaborative teaching model, with a practical approach, with a mandatory assignment and a mandatory project which must be completed during the module.

Notional learning hours

Contact	Distance	Other	Type of learning activities	% Learning
y	y	n	Lectures (face-to-face, limited interaction or technologically mediated)	40%
y	y	n	Tutorials: individual groups	20%
n	y	n	Syndicate groups	10%
n	y	n	Independent self-study of standard texts and references (study guides, books, journal articles)	10%
n	y	n	Independent self-study of specially prepared materials (case studies, multi-media, etc.	20%

Syllabus

- Understanding the Data Analysis t-test tools
- Understanding what is z-test and how to perform the test
- Creating a scatter plot
- Using the Regression tool
- Using the Correlation tool
- Understanding and Implementing the ANOVA data analysis tools
- Comparing variances
- Understanding and using the Fourier Data Analysis tool.
- Hypothesis Testing
- Introduction to Probability