COURSE OUTLINE

2020/2021

COURSE NAME: Statistical Analysis
COURSE CODE: STAT3010

COURSE DESCRIPTION

This course is designed to formalize the student's understanding of statistics so that they will be able to apply appropriate statistical practice in the technological applications they encounter. The course helps students to acquire the skills to apply descriptive and inferential statistics to obtain, organize and analyze data and present the findings. Topics in the course include analysis of categorical and quantitative data, probability and probability distributions, confidence interval estimation, hypothesis testing and correlation and regression analysis.

Course Credits: 3.00
Equivalent Courses: BTE301

LEARNING OUTCOMES

OUTCOME	Upon successful completion of this course, you will be able to
1	Analyse and represent data with graphs and numerical measures. The following concepts, skills, and issues are used to support this Outcome: • Review introduction material. • Organize and graph data. • Compute numerical descriptive measures.
2	Analyse probability and probability distributions. The following concepts, skills, and issues are used to support this Outcome: • Compute probabilities. • Analyse discrete random variables and their probability distributions. • Analyse continuous random variables and the Normal distribution. • Analyse sampling distributions.
3	Apply estimation and hypothesis testing. The following concepts, skills, and issues are used to support this Outcome: • Perform estimation of mean and proportion. • Perform hypothesis tests for the population mean and proportion. • Perform estimation and hypothesis testing for two populations.

4	Analyse association between variables. The following concepts, skills, and issues are used to support this Outcome: • Perform Chi-Square tests. • Perform analysis of variance (ANOVA). • Perform correlation and simple linear regression analysis.
5	Discuss ethical practices in statistical analysis and reporting. The following concepts, skills, and issues are used to support this Outcome: • Discuss ethical practices related to collecting, preparing, interpreting, and presenting data. • Practice strategies to ethically handle anomalies related to collecting, preparing, interpreting, and presenting data.

STUDENT EVALUATION

OUTCOME	ACTIVITY DESCRIPTION	MARK DISTRIBUTION
1, 2, 3, 4 and 5	Practical Assignments	40%
1, 2, 3, 4 and 5	Practical Assessments	60%
	TOTAL	**100%**

COURSE COMPLETION REQUIREMENTS

No less than 50%.

STUDENT EQUIPMENT AND SUPPLIES

PC based MS Excel with add-ons.

DELIVERY METHOD

This course will be taught using a variety of delivery methods which may include face-to-face, online, or blended teaching platforms. Activities such as collaborative exercises/assignments, seminars, labs, discussion, audio/visual presentations, case studies, and practicums may be used to support learning.

STUDENT RESPONSIBILITY

Enrolment at NAIT assumes that the student will become a responsible citizen of the Institute. As such, each student will display a positive work ethic, assist in the preservation of Institute property, and assume responsibility for his/her education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

EQUITY STATEMENT

NAIT is committed to providing an environment of equality and respect for all people within the learning community, and to educating faculty, staff, and students in developing inclusive teaching and learning contexts that are welcoming to all.

Leadership Review Date: October 16, 2019

Curriculum Committee Review Date: October 16, 2019

Changes to This Course Outline: Every effort has been made to ensure that information in this course outline is accurate at the time of publication. The Institute reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.