

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: STATISTICS
Code No.: MTH 655-3
Program: AVIATION
Semester: FOUR
Date: JUNE, 1984
Author: J. McGAULEY

New

Revision

APPROVED:


Chairperson



CALENDAR DESCRIPTION

STATISTICS
Course Name

MTH 655-3
Course Number

PHILOSOPHY/GOALS:

Statistical thinking and introduction, summarizing data and frequency tables, mean, median, mode, standard deviation, probability and probability functions, sampling concepts, estimation, regression and correlation, hypothesis testing, with computer applications.

METHOD OF ASSESSMENT (GRADING METHOD):

The students will be assessed by tests. These tests will include periodic tests based upon blocks of subject matter and may, at the instructor's discretion include unannounced surprise tests on current work and/or a final test on the whole course. A letter grade will be based upon a student's weighted average of his test results. See also the mathematics department's annual publication "To The Mathematics Student" which is presented to the students early in each academic year.

TEXTBOOK(S)

"Statistics and Probability in Modern Life", (3rd Edition), Newmark, Saunders Publishing

OBJECTIVES:

The basic objective is for the student to develop an understanding of the methods studied, knowledge of the facts presented and an ability to use these in the solution of problems. For this purpose exercises are assigned. Tests will reflect the sort of work contained in the assignments. The level of competency demanded is the level required to obtain an overall passing average on the tests. The material to be covered is listed on the following pages.

TOPIC	PERIODS	TOPIC DESCRIPTION	REFERENCE
		<u>Introduction</u> - definition, development and scope of statistics	pp. 3-18
		<u>Descriptive Statistics</u> - quantitative and qualitative data - discrete and continuous variables - frequency tables, histograms, frequency polygon, cumulative frequency polygon	pp, 21-62
		<u>Measures of Location & Variation</u> - summation notations - means and weighted mean - median, mode - range, variance mean deviation - standard deviation	pp. 65-108
		<u>Probability</u> - meaning and types of probability - probability computations - permutations - combinations dependent and Independent events - (Omit Bayes Theorem)	pp. 112-196
	12	<u>Probability Distributions</u> - definition, binomial distribution only and its mean and standard deviation - normal distribution and normal approximation of the binomial - (Omit Poisson and Hypergeometric)	pp. 214-304

TOPIC	PERIODS	TOPIC DESCRIPTION	REFERENCE
		<u>Sampling</u> - sampling methods, Central Limit Theorem	pp. 309-334
	8	<u>Estimation</u> - Interval estimate of means and proportions, sample size	pp. 341-372
	8	<u>Linear Regression & Correlation</u> method of least squares, scatter diagrams, coefficient of correlation, standard error	pp. 422-462
		<u>Hypothesis Testing</u> - hypothesis testing procedure - tests concerning means and proportions - tests concerning differences between means	pp. 376-419