University of Asia Pacific

Department of Basic Sciences & Humanities

Courses Title: Probability and Statistics; Complex Variable and Harmonics
Course Code: MTH 301 (EEE)

Course Outline:

Complex Variable: complex number system.
General functions of a complex variable.
Limits and continuity of a function of a complex variable and related theorems.
Complex differentiation and the Cauchy-Riemann equations.

Infinite series. Convergence and uniform convergence.

Liouville's theorem. Taylor's and Laurent's theorem.
Harmonics: solution of Laplace's equation.
cylindrical harmonics.
spherical harmonics.
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Course Outline:

Definition and use of statistics in Engineering
Frequency distribution, mean median and mode and other measures of central tendency
Measures of dispersion and importance standard deviation in statistics
Measures of skewness and kurtosis
Elementary probability theory
Discrete and continuous probability distribution
Binomial and poisson and continuous probability distribution
Sampling theory and sampling distribution
Hypothesis testing
Different test statistics and their applications
Correlation and regression analysis