Probability and Statistics

Code	**Credit Hours**
MATH-364	2-0

COURSE DESCRIPTION:
To teach students basics of probability and statistics with applications related to different disciplines of engineering.

TEXT AND MATERIAL
Textbooks:

1. Advanced Engineering Mathematics, Latest Available Edition, by Erwin Kreyszig
2. Mathematics by Aviation Maintenance Technician Certification Series, Latest Available Edition

Reference Material:

1. Probability and Statistics by Murray R. Speigel

ASSESSMENT SYSTEM:

Quizzes	10-15%
Assignments	5-10%
Mid Terms	30-40%
ESE	40-50%

TOPICS COVERED:

Week No	**Ref**	**Description**
1	Introduction	Course Outline, objectives, teaching plan, assessment method
2	Chapter24-Section 24.1, 24.2	Graphical Representation of Data: Stem-and-Leaf Plot, Histogram, Boxplot; Mean, Standard Deviation, Variance Sample Space, Experiment Outcomes,
3	Chapter 24-Section 24.2, 24.3	Sampling with and without replacement, Set theory Introduction to theory of Probability, Theorems of Probability, Conditional probability

4	Chapter 24-Section 24.4	Permutations and Combinations Random Variables and Probability Distributions
5	Chapter 24-Section 24.5	Permutations and Combinations Random Variables and Probability Distributions
6	Chapter 24-Section 24.6	Mean and Variance of a Distribution, Expectation, Moments
7	Chapter 24-Section 24.7	Binomial, Poisson & Hypergeometric distributions
8	Chapter 24-Section 24.8	Normal distribution
9	**MID TERM EXAM**	
10	Chapter 24-Section 24.9	Distributions of several Random Variables
11	Chapter 25-Section 25.1	Random Sampling
12	Chapter 25-Section 25.2	Point estimation of Parameters
13-14	Chapter 25-Section 25.3	Confidence intervals.
15	Chapter 25-Section 25.4	Testing of hypothesis. Decisions
16	Chapter 25-Section 25.5	Quality control, Control chart
17	Chapter 25-Section 25.6	Acceptance sampling, errors & rectification
18	**END SEMESTER EXAMINATION**	