Department of Mathematics
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Course	**Course Name**	**: Mathematical Statistics**
	Course Code	**: KM184505**
	Credit	**: 3**
	Semester	**: 5**

Description of Course	
This course is a statistical inference and is a concept of decision making in a population with sampling, which is a limiting distribution, sampling distribution, cytite estima, evaluation of point estimation and Interval Estimation.	
Learning Outcome	
PLO 1	[C2] Students are able to identify and explain foundations of mathematics that include pure, applied, and the basic of computing
PLO 2	[C3] Students are able to solve simple and practical problems by applying basic mathematical statements, methods and computations
PLO 3	[C4] Students are able to analyze simple and practical problems in at least one field of analysis, algebra, modeling, system optimizations and computing sciences
Course Learning Outcome	
1. Students are able to define Central Limit Theorem, asymptotic Normal distribution, statisti convergence and convergence of opportunity / distribution. 2. Students are able to explain Sampling Statistics & Distribution 3. Students are able to explain Point Estimation and Interval Estimation. 4. Students are able to explain Sufficiency & Completeness 5. Students are able to explain Hypothesis Test.	

Main Subject
1. Random variable sequence, Central Limit Theorem, Asymptotic normal distribution, statistical convergence and convergence of distribution / opportunity. 2. Sampling statistics and distribution, Distribution Z, Khi-Square distribution, T distribution, F distribution, and Beta distribution. 3. Estimation point: Estimation method is Method of Moment and Method of MLE (Maximum Likelihood Est), Estimate criterion criteria: Unbiased, UMVUE, Lower limit Cramer Rao, efficient, consistent and statistically enough, exponential family (REC), complete enough statistics Lehman Theorem Scheffe. 4. Confidence interval, pivotal quantity method, and general method, and two sample problems
Prerequisites
Probability Theory Statistical Methods
Reference
1. Bain, L.J., Engelhardt, M. , " Introduction to Probability and Mathematical statistics", Duxbury Press, 2nd., 1992
Supporting Reference
1. Hogg, R.V., Tanis, E.A, "Probability and Statistical Inference", Pearson Education, 2006 2. Casella, G., Berger, R.L., " Statistical Inference", Brooks/Cole Pub.Co., 1990