南京航空航天大学
Nanjing University of Aeronautics and Astronautics

Course description

Course No.	1900832W	**College**	Science	**Dept.**	Mathematics
Teacher	TBA				
Time	2018.06.25-2018.07.27				
Course Name	**English**	Probility			
	Chinese	概率论			
Course credit hours	**Total**	**Theory**	**Office Hour or Practice**	**Credits**	
	60	50	10	4.0	

Course description:

Foundation material in probability and statistical inference. Topics include sample spaces, conditional probability and Bayes' rule, random variables, discrete and continuous probability distributions, expectation, estimation, and hypothesis testing.

To provide a foundation in probability theory and statistical inference in order to solve applied problems and to prepare for more advanced courses in probability and statistics.

Requirements for courses; ability and knowledge in advance

The prerequisites are Calculus I or Calculus for Business.

Course structure explanation:

Make clear the necessary parts, optional parts, distribution of hours. Courses with experiments or practice are expected to explain credit hours needed, content, scheme and functions.

Week	**Content**
1	1. Introduction 2. Probability of an Event and Additive Rules 3. Conditional Probability, Independence and Product Rules 2.7 Bayes' Rule 4. Concept of a Random Variable 5. Discrete Probability Distributions and Continuous Probability Distributions 6. Joint Probability Distributions
2	1. Mean of a Random Variable and Variance and Covariance of Random Variables 2. Means and Variances of Linear Combinations of Random Variables 3. Limits and Continuity， and Partial Derivatives

	4. Chebyshev's Theorem and Binomial and Multinomial Distributions
3	1. Hypergeometric Distribution 2. Negative Binomial and Geometric Distributions and Poisson Distribution and the Poisson Process 3. Continuous Uniform Distribution 4. Normal Distribution and Areas under the Normal Curve
4	1. Applications of the Normal Distribution and Normal Approximation to the Binomial 2. Gamma and Exponential Distributions 3. Chi-Squared Distribution
5	1. Random Sampling and Sampling Distributions 2. Some Important Statistics 3. Sampling Distributions 4. Sampling Distribution of Means and the Central Limit Theorem

Teaching methods (Lectures, practice, etc.)

Lectures and self-study

Forms of evaluation and requirements

Structure of the final grade(including presence, class performance), focus of exam, forms of exam(test, interview, final report, etc)

Homework and final exam

	Name	**Publisher**	**Author**	**Year**	**Price**
Textbook	Probability and Statistics for Engineers and Scientists		Walpole Myers	2012	
College					