

# Applied Mathematics

## Unit 2

### Course Outline

Proposed date	topic	module
September	Particle Mechanics	
	Coplanar forces and equilibrium	Review of vectors Resolution of forces Concurrent forces in equilibrium Friction lami's theorem
	Kinematics and Dynamics	Motion in a straight line Velocity time displacement Newton laws of motion First order differential equation sin motion Linear momentum Impulse
October	Projectiles	Properties of a projectile
	Work energy and power	Work done by a force, variable force Kinetic and potential energy Principle of conservation of energy Power Work energy principle
November	Discrete mathematics	Linear programming

		Graphical representation of linear inequalities  Formulation of linear programming inequalities for real world situations
		Assignment model  Hungarian algorithm
	Graph theory	Graph theory terminology  Earliest and latest starting time, float time  Critical path, Networks
	Logic and Boolean Algebra	Truth tables. Tautologies  Boolean algebra  Application of Boolean algebra
	Discussion of Internal assessment project	
January	Probability distribution	Counting principles  Concept of probability  Union and intersection of events  Conditional probability
February	Discrete Random Variables	Special discrete random variables binomial, uniform, geometric and Poisson
	Continuous random variables	Normal approximation to Poisson distribution
	Chi squared testing	Goodness of fit test
	Submission of Internal Assessment	