

Department of Mathematics

Faculty of Science

MATH 762 (206762) METHODS OF APPLIED MATHEMATICS II

3(3-0-6)

Prerequisite MATH 761

Course Descriptions :

Vectors and matrices : linear vector spaces and operators, coordinate transformation, diagonalization of matrices, Hilbert spaces. Perturbation : nondegenerate and degenerate theories. Group theory : introduction, discrete and continuous groups, generators, group representation.

Course Contents

No. of Lecture Hours

1. Vectors and matrices	18
- Linear vector space , linear operators	
- Matrices	
- Coordinate transformations	
- Diagonalization of matrices	
- Space of infinite dimensionality Hilbert space	
2. Perturbation	9
- Nondegenerate theory , Degenerate theory	
3. Group theory	18
- Introduction to group theory	
- Discrete groups (point groups)	
- Continuous group (Lie groups)	
- Generators	
- Group representation	
Total	45