# Faculty of Computers and Information Technology

## Discrete Mathematics

### Information :

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| **Course Code :** | BMT 112 | **Level :** | Undergraduate | **Course Hours :** | 3.00- Hours |

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| **Department :** | Faculty of Computers and Information Technology |

### Instructor Information :

| Title | Name | Office hours |
|---|---|---|
| Associate Professor | Khaled Ahmed Mohamed Elshafey | 2 |
| Teaching Assistant | Linah Mohammed Ibrahim Elsayed Ahmed Elnaghi | |
| Teaching Assistant | Hoda Ashraf Mohamed Mohamed Mostafa | |
| Teaching Assistant | Warda Mustafa Saied Mahmoud | |
| Teaching Assistant | Farah Ashraf Wafaa Mahmoud | |

### Description :

The course provides the concept of Preliminaries. Topics covered in this course are sets, binary relations, functions, summations, matrices; Logic: language of logic, quantifiers, advanced induction; Formal Logic: propositional calculus, Boolean algebra; Algorithms: pseudo-code language, recursive algorithms; Graph Theory: graphs, digraphs, paths, cycles, adjacency matrices, connectivity, trees, graph algorithms; Enumeration: permutations, combinations, inclusion/exclusion, Binomial Theorem, combinatorial identities; Group Theory: groups, subgroups, cosets, Lagrange¢s Theorem, quotient groups; Difference Equations/Recurrence Relations: basic types of recurrences/difference equations and solution methods.