### COURSE DETAILS

**Course Code:** F17SO  
**Full Course Title:** Discrete Mathematics  
**SCQF Level:** 7  
**SCAF Credits:** 15  
**Available as Elective:** No

### DELIVERY LEVEL

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<th>Postgraduate Taught:</th>
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<th>Postgraduate Research:</th>
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**Additional Information:**

### COURSE AIMS

Practical problems using set theory, algebraic structural models and graph theory

### LEARNING OUTCOMES – SUBJECT MASTERY

The theoretical knowledge and proof methods of mathematical logic, set theory and algebraic structure

Identify related concepts of mathematical logic, sets, relationships, and algebraic structures

Construct a relatively complete theoretical framework of set theory and algebraic structure

Theoretical description method for mathematical modeling of practical problems

The basic principles of algorithm design

The algorithm complexity analysis method

Basic concept of Graph Theory

Nature of the Graph

Graph algorithm

Application of Graph Theory

Mathematical logic reasoning ability

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F17SO Discrete Mathematics

Analytical ability to solve problems

Ability of strain and expression

Ability of document retrieval and reading

LEARNING OUTCOMES – PERSONAL ABILITIES

SYLLABUS

Introduction to Mathematical Models and Problem Analysis in Computer Science, basic theory of graphs and various special graphs, as well as the application of various graphs in the computer field

Basic concepts of mathematical logic, set theory and algebraic structure

Theories and algorithms of sets and relations and algebraic structures

Application of sets, relations and algebraic structures in practice

Analysis of practical application problems

Basic concept of Graph Theory

Nature of the Graph

Graph algorithm

Application of Graph Theory

COURSE RELATIONSHIPS

N/A

LOCATION AND ASSESSMENT METHODS

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<th>SBC</th>
<th>Ork</th>
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