

Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
PH413	Mathematical Logic	7	3	0	0	3	4

Prerequisites	
Admission Requirements	

Language of Instruction	Turkish
Course Type	Elective
Course Level	Bachelor Degree
Objective	
Content	An introduction to some of the principal topics of mathematical logic comprising natural and unrestricted set-theoretic methods.
References	Introduction to Mathematical Logic - Elliott MENDELSON Logique mathématique 1, Calcul propositionnel, algèbre de Boole, calcul des prédicats : cours et exercices corrigés - René CORI ; Daniel LASCAR Logique mathématique 2, Fonctions récursives théorème de Gödel, théorie des ensembles, théorie des modèles : cours et exercices corrigés - René CORI, Daniel LASCAR Naïve Set Theory - Paul R. HALMOS

Theory Topics

Week	Weekly Contents
1	Order.
3	Propositional Connectives. Truth Functions.
4	Tautologies.
5	Adequate Sets of Connectives.
6	An Axiom System for the Propositional Calculus.
7	Independence. Many valued Logics.
8	Other Axiomatizations.
9	Quantifiers.
10	Interpretations. Satisfiability and Truth. Models.
11	First-Order Theories.
12	Properties of First-Order Theories.
13	Completeness Theorems.
14	Some Additional Metatheorems. Rule C.,,,