Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
PH105	Logic	1	3	0	0	3	6

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	To provide an acquirement of the vocabulary and the concepts of the propositional logic
Content	Semantical analysis of the formulas of the formal language P and proofs of the theorems of the formal system PF.
References	Introduction to Logic I, Yalçın Koç ,Boğaziçi University Publications,1980. Naive Set Theory, Paul Richard Halmos, D. Van Nostrand Company, Princeton, NJ, 1960. Introduction to Mathematical Logic, Eliot Mendelson, D. Van Norstand Company, Princeton NJ, 1964 Sembolik Mantık, Tarık Necati Ilgıcıoğlu, Anadolu Üniversitesi Yayınları, Ankara 2013. Introduction to Mathematical Logic, Church, A., Princeton University Press, Princeton NJ, 1956. Introduction to Logic, Suppes, P., D. Van Norstrand Company, Princeton NJ, 1957. Logique formelle et argumentation, Laurence Bouquiaux & Bruno Leclercq, De Boeck, Brüksel, 2009.

Theory Topics

Week	Weekly Contents
1	The formal language P : alphabet and grammar
2	Definitional completeness for the formal language P
3	Semantics of the formal langugage P: Boolean functions on the set T :{t, f}
4	Functional completeness of the boolean functions on T
5	Interpretation of the formal language P
6	Semantical implication and deduction meta-theorem
7	Semantical analysis of the grammatical formulas of the formal language P
8	Mid-term
9	Formal system PF
10	Deduction in the formal system PF
11	Syntactical implication
12	Deduction meta-theorem for the formal system PF
13	Consistence and completeness meta-theorems for the formal system PF
14	Absolute and simple consistency of the formal system PF