Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MATH 523	Differential Topology	2	3	0	0	3	7

Prerequisites	
Admission Requirements	

Language of Instruction	English
Course Type	Elective
Course Level	Masters Degree
Objective	This course is an introduction to smooth manifolds and their topology (differential topology).
Content	In the first part of the course, we will introduce basic objects on smooth manifolds, including: differentiable manifolds, smooth maps, tangent and cotangent vectors, differential forms, integration, stokes theorem and de Rham cohomology. In the second part, we will study differential topology (topology of smooth manifolds), including: Whitney immersion and embedding theorems, approximation theorem, Sard theorem, transversality, intersection numbers, Morse functions and Morse theory.
References	1)John Lee, Introduction to smooth manifolds? 2)Victor Guillemin & Alan Pollack, Differential topology

Theory Topics

Week	Weekly Contents