MATH 476

Algebraic Curves – METU Mathematics Department

Spring 2024

Titles of Videos:

1) Math 476-1: Introduction to Projective Plane-1
2) Math 476-2: Introduction to Projective Plane-2
3) Math 476-3: Topology of the Real Projective Plane and Its Embedding
4) Math 476-4: Algebraic Curves in the Complex Projective Plane-1
5) Math 476-5: Algebraic Curves in the Complex Projective Plane-2
6) Math 476-6: Definition of Riemann Surfaces, The Riemann Sphere
7) Math 476-7: Complex Torus and Higher Genus Riemann Surfaces
8) Math 476-8: Holomorphic and Meromorphic Functions on Riemann Surfaces
9) Math 476-9: Zeros and poles of Meromorphic functions
10) Math 476-10: Multiplicity of a meromorphic function at a point
11) Math 476-11: Multiplicity of a meromorphic Map between Riemann Surfaces
12) Math 476-12: Holomorphic and Meromorphic Differentials (Definition and Examples)
13) Math 476-13: Integrals of Meromorphic Differentials (Stokes' Theorem for Holomorphic Differentials)
14) Math 476-14: Residue Theorem for Meromorphic Differentials
15) Math 476-15: Applications of the Residue Theorem, Differential forms on Riemann Surfaces-1
16) Math 476-16: Differential forms on Riemann Surfaces-2
17) Math 476-17: Closed and Exact forms and the Winding Number-1
18) Math 476-18: Closed and Exact forms and the Winding Number-2, Poincaré-Hopf Index Theorem (for smooth 1-forms)-1
19) Math 476-19: Poincaré-Hopf Index Theorem (for meromorphic 1-forms)-2
20) Math 476-20: Complex Manifolds-1
21) Math 476-21: Complex Manifolds-2, Smooth Curves and Varieties-1
22) Math 476-22: Smooth Curves and Varieties-2, Holomorphic Mappings from Compact Riemann Surfaces to Projective Spaces-1
23) Math 476-23: A Quick Review of Normalization of Plane Algebraic Curves-1
24) Math 476-24: Problem Session
25) Math 476-25: Normalization, Blow-up and Elimination of Indeterminancies-2
26) Math 476-26: Normalization, Blow-up and Elimination of Indeterminancies-3, Divisors
27) Math 476-27: Intersection numbers and Bezout Theorem-1