

# MATH 476

## Algebraic Curves – METU Mathematics Department

Spring 2024

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- 1) Math 476-1: Introduction to Projective Plane-1
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- 3) Math 476-3: Topology of the Real Projective Plane and Its Embedding
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- 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
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