In this class we will study the fundamentals of Complex Geometry. Our main point of view will be differential-geometric, and we will try to study the similarities and differences between complex geometry and symplectic geometry.

Some of the topics covered:

- Complex manifolds and vector bundles
- Sheaf theory
- Differential geometry of Complex vector bundles
- Elliptic complexes and the Atiyah-Singer-Riemann-Roch Theorem
- The Kodaira embedding theorem

The class will be student oriented. Some texts we will be using or referring to are

- Griffiths and Harris, Principles of Algebraic Geometry
- Donaldson, Riemann Surfaces
- Wells, Differential Analysis on Complex Manifolds
- Fulton, An Introduction to Toric Varieties.

Class schedule: Organizational meeting Wednesday, September 6, at 12 noon at 521 Lake Hall. Please let me know if you are interested in attending, especially if you cannot make the organizational meeting, since we may adjust the class schedule then.