CLASS: MW 10:30-12 am rm 2-103  
Professor: Tom Mrowka, rm2-367, 253-2857,  
email: mrowka@math.mit.edu  
Office Hours: TBA.

ROUGH OUTLINE: This course be a course on complex manifolds and special structures that they may carry. We will begin with the basic definitions of complex manifolds and sheaves and give a proof of the Hodge theorem and Kodaira-Serre duality. We will then discuss various aspects of the theory of complex manifolds including some of the following topics, the Newlander-Nirenberg theorem, deformation theory ala Kodaira and Spencer, theory of Stein manifolds, moduli spaces of sheaves and vector bundles on complex manifolds. Existence of Hermtian-Einstein metrics on holomorphic vector bundles. Existence of Kähler-Einstein metrics on complex manifolds.

REQUIRED TEXTS:


RECOMMENDED TEXT:

HOMEWORK: There will be weekly homework assignments.

HOMEWORK RULES: You may work with others, but solutions must be written up in your own words, independently.

GRADING: There may also be a final paper or presentation required.