MATH 725: DIFFERENTIAL GEOMETRY 1
Fall 2016 Syllabus
T-TH 9:30-11, STH 319

Instructor: Siu-Cheong Lau
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Office hours: Thursday 1-4pm

Overview:
We will focus on complex and Kaehler geometry. Complex manifolds and holomorphic vector bundles, Hermitian metric, connection and curvature, Hodge theory, Higgs bundle (known as non-Abelian Hodge theory).

Prerequisites:
Differential forms and calculus on manifolds.

References:
Huybrechts – Complex Geometry: an Introduction
Demailly - Complex analytic and differential geometry
Lecture notes on Higgs bundles over Riemann surfaces by Wentworth

Homework:
We will have homework weekly or biweekly. Late homework will not be accepted. Students may discuss homework with each other (and are encouraged to do so) but all written work must be prepared independently.

Exam:
There will be one take-home mid-term test and one take-home final exam.

Grading:

Homework	40%
Take-home mid-term test	30%
Take-home final exam	30%