

Lecture course on GENERALIZED COMPLEX GEOMETRY

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Fridays 10:15-12 (starting Sept. 28!)

- The target audience are Master students with a background in differential geometry and doctoral students.
- There will be 1 hour of exercises every week (Fr. 12-13).
- Solving 50 per cent of the exercises will allow to earn 4 credit points.
- In case of questions contact me at `zambon@math.unizh.ch`

Prerequisites: Some differential geometry (the concepts of manifold, vector bundle, Lie derivative, foliation...) will be expected. Some notions of symplectic, complex or Poisson geometry will be helpful but are not required.

Content: Generalized complex geometry was introduced very recently and extends both complex and symplectic geometry. We will first review basic facts about complex and symplectic manifolds as well as Dirac manifolds (the real counterparts of G.C. manifolds). Then we will study various interesting linear-algebraic contructions to describe linear G.C. structures, we will globalize them to describe of G.C. manifolds, and finally we will study their geometry (in particular their deformation and reduction).

Literature: We will use the doctoral thesis of Marco Gualtieri (<http://trefoil.math.ucdavis.edu/0703.5298>) as well as other sources, including some few from the physics literature.