Reading Seminar C1 : fundamental mathematics

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- **Main goal:** The aim of this reading seminar is to let students read and expose publicly an advanced text in a bracnh of fundamental mathematics which is not covered by but is near to the themes of the other basic courses. This year the chose theme is Algebraic Topology and the book will be that of Allen Hatcher, available online on his web page. Each student will have to prepare two public seminars in english of the duration of one hour and half announced to the researchers of the Institut de Mathmatiques de Toulouse and will attend the others by actively participating to the discussion following each seminar.

- **Contents:** Here is a resum of the contents which will be treated in the course of the year : the fundamental group, covering spaces, CW complexes, simplicial complexes, simplicial homology and singular homology, cohomology, cup product and Poincaré duality, some homotopy theory.

- **Prerequisite:** Basic topology (topological spaces, continuous functions, Haussdorf spaces, compact spaces).

- **References:** A. Hatcher, *Algebraic topology*, https://www.math.cornell.edu/ hatcher/.