LTCC Basic Pure Course

- **Title:** Finite Simple Groups
- **Basic Details:**
  - Core Audience: Pure
  - Course Format: Basic/Core (10h)

- **Course Description**
  - The classification of finite simple groups is one of the major mathematical achievements of all time. The course will describe the construction of properties of a representative sample of the finite simple groups, including some of each type (alternating, classical, exceptional and sporadic).
  - Keywords: Alternating groups, general linear groups, Mathieu group.
  - Syllabus: 1. Alternating Groups; 2. The general linear groups, including simplicity of $PSL_n(q)$ via Iwasawa’s Lemma, 3. Forms and classical groups, 4. Quaternions, octonions and groups of type $G_2$, 5. Sporadic groups: $M_{24}$

- **Recommended reading:** R. A. Wilson, *Finite Simple Groups.*

- **Format:** Proposed timing: early Autumn 2009

- **Lecture details:** Professor R. A. Wilson, QMUL.