

# ICTP DIPLOMA PROGRAMME IN CONDENSED MATTER PHYSICS 2013-14

## SYLLABUS

**Statistical Mechanics** - {20 Lectures = 30 hours} A. Scardicchio

1. Thermodynamics, work, energy, entropy
2. Phases of matter and phase transitions
3. Elements of ensemble theory
4. Canonical ensemble and grand canonical ensemble
5. Ideal gases
6. Bose and Fermi statistics
7. Statistical models of ferromagnetism
8. Elements of Landau-Ginzburg theory, critical exponents