



University of Illinois

COURSE ANNOUNCEMENT

Fall Semester 2011

PHYS 598 SC1/SC2

Superconductivity, Ancient & Modern, Parts 1 & 2
Professor Tony Leggett

Time: Mon, Wed 1:00-2:20PM Credit: 2 hours for each part

Place: 136 LOOMIS Call Number: 38744 (Part 1)

40489 (Part 2)

Superconductivity, Ancient & Modern, Part 1: SC1 is devoted to “classical” superconductivity and its explanation in terms of the BCS theory; it focuses on the basic nature of the superconducting state and its microscopic properties.

Superconductivity, Ancient & Modern, Part 2: SC2 covers the various classes of superconductors which do not appear to fit well into the BCS scheme: heavy-fermion systems, fullerenes, organics, ruthenates, ferropnictides, and above all, the cuprate (high-temperature), superconductors. In the case of the last, as well as describing the experimental properties, the course will attempt to survey some of the principal themes in current theoretical work, without committing to any specific model.

SC1 and SC2 are modules which can, if desired, be taken individually (though SC2 alone is recommended only for students with substantial previous exposure to the theory of superconductivity). Register for SC1 or for SC2 or for both SC1 and SC2.

SC1 meets in the first half of the semester (August 22 – October 11).

SC2 meets in the second half of the semester (October 17 – December 11).