MWF 10-11
Room 58 Old Physics

This course will consist of lectures given by members of the Ames Lab and ISU CMP program and it is meant to codify many of the “details” that are never covered in more formal, theoretical reviews of these topics.

Lectures will primarily be power point presentations, which we plan to post on the Canfield group web site, augmented by black board work.

Grades for this course will be based on attendance, participation and an end of semester oral exam.

Jan 12, 14, 16 Growth of samples and phase diagrams Canfield / McCallum
Jan 21, 23 Quantitative powder X-ray diffraction Kreyssig
Jan 26, 28, 30 NMR Introduction and basics Furukawa
Feb 2, 4, 6 NMR examples and eSR Furukawa
Feb 9, 11, 13 Basic optics and spectroscopy Wang
Feb 16, 18, 20 "Advanced optics, ultrafast and nonlinear spectroscopy" Wang
Feb 23, 25, 27 Band structure calculations: intro and basics Harmon
Mar 2, 4, 6 Angle resolved Photo-Emmission Spectroscopy (ARPES) Kaminski
Mar 9, 11, 13 Quantum oscillations and positron annihilation Bud’ko / Fretwell

SPRING BREAK AND MARCH MEETING
Mar 23, 25, 27 Scanning Tunneling Microscopy Tringedes / Hupalo
Mar 30, Apr 1, 3 ODMR, OLED, OMG Shinar
Apr 6, 8, 10 Inelastic neutron scattering McQueeney / Goldman
Apr 13, 15, 17 Inelastic photon scattering / advanced synchrotron measurements/
Mossbauer Spectroscopy Goldman / Kreyssig / Bud’ko
Apr 20, 22, 24 Review and Oral Exams
Apr 27, 29, May 1 Oral Exams