<u>PHYSICS 590B FALL 2018 SCHEDULE</u> **MWF 1:10 – 2:00 p.m.** **Room 38 Physics Hall**

Week 1 / Aug 20 Intro (Canfield), Aug 22, 24 Measuring of Temperature (Prozorov)

Week 2/ Aug 27, 29 Cryogens: generation and handling (Bud'ko) Aug 31 Low pressure generation and gauging (Kaminski)

Week 3 / Sept. 5, 7 Low pressure generation and gauging (Kaminski)

Week 4 / Sept 10, 12, 14 X-ray and Neutron Generation (in-house as well as facilities) (Goldman/McQueeney/Kreyssig)

Week 5/ Sept 17, 19, 21 Elastic X-ray and neutron scattering (Goldman/McQueeney/Kreyssig)

Week 6/Sept 24, 26, 28 E and B field generation (Kaminski and Bud'ko)

Week 7 / Oct 1, 3, 5 First sets of 10 plus 6 minute talks from students.

Week 8 / Oct 8, 10, 12 Magnetization measurements (d.c.) (Prozorov)

Week 9 / Oct 15, 17, 19 Magnetization measurements (a.c., magneto optics, NV) (Prozorov)

Week 10 / Oct 22, 24, 26 Specific heat and scanning calorimetry measurements (Bud'ko/ Dennis)

Week 11 / Oct 29, 31, Nov 2 Compositional phase diagrams, how to read them and how to make them (W. Meier)

Week 12 / Nov 5, 7, 9 Elemental Analysis and e-beam (Straszheim / Kramer)

Week 13 / Nov 12, 14 High pressure generation, gauging and measurements (Bud'ko) Nov 16 Specific heat under pressure (Gati)

Week 14 / Nov 26, 28, 30 Electrical resistivity measurements (Tanatar)

Week 15/ December 3, 5, 7 Second sets of 10 plus 6 minute talks from students.

Final Exam Time: Any remaining 10 plus 6 minute talks, as needed.

---Physics 590B is a course taught by experts, of all backgrounds, on a variety of topics associated with experimental condensed matter physics (CMP).

---The goal of 590B is to present key details about CMP experiment, and, as needed, couple it to theory. A parallel goal it to engage the participants in an active and lively discussion of key points of experimental CMP.

---Physics 590B will be graded on a Pass/Fail basis. Grades will be determined by attendance, class room participation, and an oral presentation given during the semester. Lecture slides will be posted (generally after the presentation of the lecture) at: <u>http://canfield.physics.iastate.edu/course18.html</u>