CHEMICAL CRYSTALLOGRAPHY SUPPLEMENTARY SUBJECT

Michaelmas Term 2010

Structure, reciprocal space and the diffraction pattern — 2 Lectures (Dr A Goodwin)

L1 Reciprocal Space
L2 Diffraction

Crystallographic symmetry — 4 Lectures (Dr S Clarke)

The principles of structure solution and refinement — 4 Lectures (Dr A Goodwin)

L7 Systematic Absences
L8 Structure Solution and Refinement
L9 Worked Example 1
L10 Worked Example 2

Hilary Term 2011

Small molecule crystallography — 6 Lectures (Dr D Watkin)

Recommended Texts (ALG)

M T Dove, Structure and Dynamics (Oxford University Press, 2003)
G Harburn, C A Taylor and T R Welberry, Atlas of Optical Transforms (Bell, 1975)
D McKie and C McKie, Essentials of Crystallography (Blackwell, 1986)
W Clegg, Crystal Structure Determination (Oxford University Press, 1998)

Useful Websites (ALG)

You should look at the course WWW pages, which contain links to a number of relevant sites; for example, tutorials and other information:

http://goodwin.chem.ox.ac.uk/goodwin/TEACHING.html

A particularly useful website for learning about reciprocal space is the “Diffraction and Fourier transform” Java applet written by Nicolas Schoeni and Gervais Chapuis:

http://escher.epfl.ch/eCrystallography/applets/fft.html

In addition, Kevin Cowtan has produced a very useful online “Book of Fourier”, from which many of the cat/duck examples used in this course are taken:

http://www.ysbl.york.ac.uk/~cowtan/fourier/fourier.html