Required Materials: safety goggles (not glasses-style), laboratory notebook

Text: Readings will come from library materials, some on reserve, and handouts.

Grading: Ninety percent of the lab grade will be based upon lab reports, results, and notebook. The remaining 10% will be an evaluation of such factors as preparation, punctuality, cooperation, attitude, etc. The lab grade will count for 23% of the course grade.

Lab Safety Instruction: You must complete the lab safety instruction program and pass the safety quiz by the end of the first week of class. The program is found at the following URL: http://web.centre.edu/labsafety/

Notebook
A complete record of all procedures, data and observations, calculations, and conclusions is to be kept in a bound notebook with numbered duplicate pages. The format should be that of a research notebook, rather than the “report” format used in some earlier courses, e.g., CHE 131. Procedures should be recorded in your own words as they are carried out; in other words, the procedure is not to be a copy of what is in a text or other literature. The carbonless copies (“yellow sheets”) for each experiment are to be attached as an appendix to your report. Kanare’s text (see below) is a useful reference on the writing of lab notebooks. The quality of your notebook record will be assessed as a part of the report grade.

Reports
Formal reports are to be submitted for most of the experiments (excepting the first one and the solid-state lab). Reports should be submitted no later than one week after the completion of an experiment. Reports should be typed and written in journal style, including literature citations. Formulas should use appropriate subscripts and superscripts (typed), and other appropriate symbols such as the degree symbol or Greek letters should be properly typed, not handwritten. See recent issues of the Journal of the American Chemical Society, Inorganic Chemistry, or Organometallics to get a feel for content and style. Include a title page with an abstract. All spectra are to be attached following the body of the report and numbered as figures. Spectra must be clearly identified with the name or formula of the compound, the scale and units of the axes, and the sampling conditions, e.g., concentration and path length for UV-VIS spectra, solvent and path length or matrix for IR spectra. Any cases of plagiarism will be referred to the Associate Dean as per College rules.

Samples
Samples of all compounds synthesized are to be submitted along with the report. Samples should be submitted in vials labeled with your name, the name of the compound, date of synthesis, and percent yield.

Lab Space, Equipment, and Chemicals
The bulk of the lab work will be carried out in Olin 223. Most of the necessary equipment will be found in the lab. Do not simply go into the organic lab or general chemistry labs and take equipment. Ask the instructor or stockroom staff for any additional items that are needed. Be on time and be familiar with the experiment before coming to lab; many of the syntheses will require every available
bit of time to complete, and you will be at a severe disadvantage if you are reading the experiment for
the first time when you get to lab. You are responsible for cleaning up all equipment at the end of lab
and returning all items to the appropriate storage space or the stockroom in good condition (read
CLEAN) and for cleaning up your work space in the lab and around the spectrometers. You should
read the MSDS for any unfamiliar chemicals involved in each experiment and make appropriate notes
about safety precautions in your notebook before starting work. Proper safety precautions are to be in
effect at all times. These include the use of approved safety goggles, appropriate clothing, and the
prohibition of food and beverages in the laboratory. If you are not sure of the appropriate means of
disposal of excess chemicals at the end of an experiment, consult with the instructor before taking any
action (again, a look at the MSDS will be helpful). Instrumental work may be carried out outside of
scheduled lab sessions if an instructor is available. Be on time for lab, as presentations will regularly
be made at the beginning of the lab session.

Some Useful References

closed reserve).


*Inorganic Syntheses*, McGraw-Hill, 1939-


(On closed reserve).


1963-68.


Pass, Geoffrey and Haydn Sutcliffe, *Practical Inorganic Chemistry: Preparations, Reactions and


References on Technical Writing

*Centre College Chemistry Program, *Guidelines for Lab Reports*, Fall 2007

How to get specialized chemistry symbols in Microsoft Word.
Chemistry Formatter add-in for Microsoft Word and Excel: a great help for subscripts, superscripts, arrows, etc.

Alley, Michael (ed.), Writing Guidelines for Engineering and Science Students. A web site with extensive resources on scientific writing.


Kanare, Howard M., Writing the Laboratory Notebook, American Chemical Society, 1985. (On closed reserve).


Internet Resources: It is strongly suggested that you look over one or more of these sites.

Writing for Scientists: SLDC site

Writing Guidelines for Engineering and Science Students: A wealth of information on scientific writing and presentations; from Virginia Tech. This site is related to Alley's text listed above.

Scientific Writing: from the Duke University Writing Studio

Writing in the Sciences: UNC Writing Center

Writing in Scientific Journal Style: Bates College Dept. of Biology