

Chem 362 Evaluation of Professional Lab Skills

Pre-lab Literature Study (5 marks)

Name:

score =		Marks /5				
		0	2.0	3.0	4.0	5.0
Prelab literature review (including spec data, hazards and properties)		Not done in advance	Minimal effort - filled in the blanks without thinking of the implications OR done after starting the experiment.	OK - all information collected in advance	Well done - all information collected in advance and considered during the experiment	Excellent - has critically reviewed the information and adjusted accordingly throughout the experiment.

Notebook & Planning (5 marks)

score =		Marks /5				
		0	2.0	3.0	4.0	5.0
Prelab planning		Not done - no evidence in the notebook of reading the procedure prior to lab	Minimal effort - read the procedure but not critically; nothing beyond procedure.	OK - thought about organization and planning of the day's work and how to plan timing.	Well done - has anticipated problems and come prepared to ask questions	Excellent - has anticipated problems and found solutions prior to lab
Notebook		No pre-lab notes done. Serious problems throughout - ie: pencil, missing data, no observations, no date or titles, no organization, data recorded in manual.	Minimal effort - flow chart not detailed and just paraphrased from procedure; data and minimal observations only; forgot notebook on more than one occasion.	OK - flow charts, hazards, data and observations well organized but no calculations, equations or method notes	Well done - flow charts hazards and data tables prepared; procedure, data, observations and results given for every experiment.	Excellent - all details, preparation, observations recorded in an organized manner. The experiment could be reproduced by any reader of this notebook.

In-lab Performance (10 marks)

score =		Marks /10				
		2	4	6	8	10
Organized?		Does only what others tell them to do	Working to the minimum level too often	Follows sequentially through procedure	Has a clear plan of what needs to be done and how they will do it	Conscientious, organized and attentive to details
Using the instructor		Asks irrelevant questions OR never asks questions, but needs to.	Asks lots of superficial questions OR doesn't ask enough questions.	Asks reasonable and relevant questions	Asks questions that go beyond the procedure	Always asks thoughtful questions
Skill level in the lab		Low skill level and doesn't seek help	Content to learn the minimum	Low skill level but seeks advice	Moderately skilled	Moderately skilled and critically assessing techniques.
Able to follow instructions		Cannot follow verbal or written directions adequately	Has difficulty following written directions, but OK with plenty of verbal support OR cannot follow multiple oral instructions.	Competent at following directions most of the time	Can work out all the directions through discussion	Can follow directions precisely
Safety awareness		Not paying any attention to safety.	Needs frequent reminders	Asks for direction when appropriate	Generally diligent but innocent of the specific nasties	Fully aware of the MSDS information and concerned for those working close by.
In-lab critical evaluation of results		Doesn't recognize problems as they arise.	Doesn't assess spectra before proceeding.	Evaluating data on the fly most of the time	Evaluates data and spectra throughout experiment and recognizes problems.	Adjusts experimental work to reflect the evaluated data.
Receptive to new ideas		Unreceptive to suggestions for improvements	Reluctant to consider other ways	Open minded but not discriminating	Open minded and discerning	Makes suggestions for improvement during the lab
Efficient use of time		None	A lot of time wasted; repetition necessary because of poor preparation; poor sequencing of tasks.	OK most of the time but slow OR leaves too quickly without completion of all tasks.	Able to use the scheduled time well.	Always planning ahead and multi-tasking.