

	<p>SCHOOL OF ARTS & SCIENCE CHEMISTRY AND GEOSCIENCE DEPARTMENT CHEM 100 – LABORATORY COMPONENT</p> <p>2012 SPRING</p>
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A. General Information

Instructor: David Stuss
Office - Fisher 344D
Telephone: 250.370.3506
E-mail: stussd@camosun.bc.ca

Location: Fisher 354
Lab Hours: Mon & Weds 3:30 – 5:30 pm
Office Hours: M 2:30 – 3:20; MW 5:30 – 6:30

A. Required Materials

Mandatory:

CHEM 100 Lab Manual
Safety glasses
Full-length clothing (pants/sleeved tops)
Full-cover footwear

Recommended:

Scientific calculator
Lab coat

Note: Students are responsible for supplying the above materials. Students that do not have protective goggles and clothing and may not be permitted to perform the lab.

B. Laboratory Schedule

Week	Day	Lab	Lab Name
1	Mon May 7	-	Orientation
	Weds May 9	15	Accuracy & Precision of Experimental Results
2	Mon May 14	1	Density
	Weds May 16	4	Heat of Combustion
3	Mon May 21		HOLIDAY
	Weds May 23		TEST I
4	Mon May 28	3	Separating Mixtures
	Weds May 30	5	Recycling Copper

5	Mon Jun 4	7 / 5	The Copper and Silver Nitrate Reaction
	Weds Jun 6		TEST II
6	Mon Jun 11	11	The Magnesium and Hydrochloric Acid Reaction
	Weds Jun 13	12	Neutralization
7	Mon Jun 18	13	Synthesis of Aspirin
	Weds Jun 20	13	Review

E. The Laboratory Mark

1. There are 9 labs. Each lab is worth 2% (except Lab 5 = 4%) giving 20% of the final grade.
2. To write the CHEM 100 final exam you must achieve at least 50% in the laboratory component.
3. Participation in all labs (including the introductory safety orientation) is **MANDATORY**. There are **NO EXCEPTIONS** other than an official doctor's note. **Permissions for an exception must be documented by email permission from the instructor.** Attendance will be taken at the beginning of each lab.
4. A maximum of **2 labs** can be missed for **medical reasons** only (7/9). Other missed labs will be assigned a mark of 0.
5. Lab reports can usually be completed in-class, but are **due 1 week after the lab** (usually the next lab class). Labs are due at the **beginning** of the lab period, or will be considered late. A penalty of **-10% per day** will be applied to late reports to a maximum of -70%. Late labs should be submitted directly to the lecturer / lab instructor with the date of submission written on the first page. If you are unable to submit the lab directly to the instructor, it is recommended that you photocopy your lab prior to submitting it. The instructor is not responsible for labs submitted by other means (e.g. under the door).
6. Students will complete labs by working in pairs but **each student must submit an individual lab report** to receive a mark for that lab. Lab partners are expected to share equally in the work.
7. Labs are graded based on both participation and the laboratory report. 40% of a lab report mark is given for participation (a report must be submitted, even if not fully completed); 10% for quality of presentation (neatness, thoroughness, etc); 50% for recorded observations, calculations, and answers.
8. Watching the Lab Safety presentation is **MANDATORY** prior to any lab work. Students who miss the orientation are responsible for arranging a viewing of the (30 minute) safety DVD before they can perform their first experiment. Your instructor will help you make arrangements as requested.

E. Laboratory Reports

Proper record keeping is critical in science. The lab manual is designed to allow students to hand in the completed pages taken directly from the manual. Your report marks will be based on the following:

1. **Identification.** In the upper right hand corner of the first page, all reports must include the following (in the correct format):

Name
Student Number
Course Section
Date
Lab Partner(s)

2. **Observations.** Students are expected to record observations in detail, such as changes in colour, clarity, temperature, odour, physical state (solid, liquid, or gas), or the length of time over which these occur. Observations must document what **did** occur, and not what was **supposed** to occur.

3. **Measurements.** All recorded values **MUST** contain the **unit of measurement**. Measurements must also be recorded using the **full precision** available with the instrument (i.e. with the most decimal places the instrument allows).

4. **Calculations.** Where appropriate, calculations should be written out as follows:

- i. Write out formula or equation in **plain English** (e.g. Density = Mass / Volume)
(only required the first time it is used in the lab write-up)
- ii. Write out **formula** using symbols (e.g. $D = M / V$) & solve for unknown
- iii. Write out **measured values** into formula using all recorded digits and correct units
(Units must be written in at **all** steps of calculation; don't round numbers arbitrarily)
- iv. Present the final calculated results using correct **significant figures** and **units** (p.86)

Sometimes these will be provided for you in the text, but if not, they are required for full marks. If you are unsure, ask your instructor for help!

MARKING ERROR KEY

OBS: Incomplete / missing observations

PREC: Incomplete recording of precision of measurement for this instrument

Units: Missing units will be added where they are lacking

SF: Significant figure error in calculation

CALC: Incomplete calculation (missing one of the required steps in 4i – 4iv)

ACC: Accuracy of results