MONASH University Library

QuickRef 21

Learning in labs

In many subjects in Science and Engineering, you will have to undertake experiments in a laboratory as part of the course. This experimental work is fundamental in developing your understanding of the theoretical knowledge in the subject and thus is integral to the coursework. Lab work also gives you practical, “hands on” experience in the use of equipment and the experimental techniques in your field.

The lab work may consist of a number of tasks: preliminary work to be completed before the beginning of the lab, the experiment itself, questions asked by the demonstrator at the end of the experiment to check that you have understood the theory behind the experiment, and a lab report written either during the lab time or to be handed in at a later date.

You will be given detailed guidelines about what is expected in labs in particular subjects, but here is some general advice about how to learn most effectively from the lab work.

Preparation for the Lab

- **Read the lab notes** a few days before you attend the lab session so that you can discuss any problems with the lecturer. Become familiar with the theory behind the experiment by reading the relevant sections of your textbooks and lecture notes.
- **Understand clearly what you are investigating in each lab.**
- If you are not sure about any aspect of the theory or the experiment, ask your lecturer to give you a brief explanation.
- **Complete any preliminary work** set out in the lab notes. This work may include reading set chapters of your textbooks, or doing some calculations or problems.
- Make sure you know exactly what you are going to be doing in the experiment. Be clear about each step in the experiment, the equipment which you will need to use and what data you will need to record. Perhaps make a short ‘action list’ to follow in the lab.

1. Be prepared for your lab lesson

Read lab notes or textbook

Do any set calculations or problems

During the Lab

- **Arrive on time** so that you can listen carefully to the demonstrator's explanation of the experiment.
- If you are not clear about anything, **ask your demonstrator**. During the experiment, you can check with your demonstrator that you are on track and getting reasonable results.
- **Be involved**, ask yourself questions about what is happening and make predictions about what you will discover. Make sure you can explain any unexpected results to yourself.
- **Note down any problems** you have. You may need to discuss why you had these problems in the discussion of your results in the written lab report.

2. Getting the most out of your Lab session.

Be on time

Ask questions

Be involved

After the Lab

- **Clarify any important points you didn't understand** by reading in your notes and books. Ask other students to clarify these or ask your lecturer.
- **Revise** - sit down and consolidate what you have learned (concepts and theory) from the experimental work.

3. After the session, consolidate what you have learnt.

Clarify points with other students or lecturer

Revise what you have learnt from the experiment.