Technical Writing

When writing a laboratory report, it is important to write professionally, succinctly, and to consider the audience of your report. Prior knowledge of the subject matter is generally expected of the reader, therefore explanations of ‘common knowledge’ in your field are usually not required.

Some key points for technical writing are outlined in this document.

Maintain the passive voice:

The passive voice puts the emphasis on the experiment and its outcome rather than the person performing the experiment (YOU!).

A good example of maintaining the passive voice would be: “A multimeter was connected in parallel with the resistor to measure the voltage.”

A bad example would be: “I then connected a multimeter in parallel to measure the voltage.”

For more information on using the passive voice, see Active and Passive Sentences in the online “Better Sentences” program.

Proper use of tenses:

When discussing the work you conducted during the experiment, you should use past tense, as the experiment has already been completed.

For example:

“…a synchronous motor was modelled using LabVolt software.”

When referring to any theories or the equipment used in your experiment you should use present tense.

For example:

“…when a synchronous motor is over-excited the back EMF generated is greater than the motor terminal voltage.”
Figures:

When presenting your data, particularly in your results section, the data presented should be easily identifiable and labelled appropriately. In most styles, figure titles should be below any graphs or images and be descriptive. The data displayed should be self-supporting; therefore, any titles should provide a clear picture of what is being displayed.

See the example below of a figure in a laboratory report, and how you would be expected to label it.

**Note:** You should always check your referencing style to ensure you are following the specific style requirements.

![Figure 1: Output and Input Voltage across a Single Phase Resistive Load with thyristor firing angle $\alpha=30^\circ$.](image)

Tables:

Like figures, tables should be clear and labelled appropriately. Titles for tables are placed above the table and follow a separate numbering system to figures.

See the pictured table and title for an example. Be sure to check with your tutor for any specific requirements with regard to the format of your report.

**Table 2: Theoretical and Simulation Outputs for a Single Phase Controller Rectifier across a Resistive Load.**

<table>
<thead>
<tr>
<th>$V_o$ [V]</th>
<th>$\alpha$</th>
<th>Theoretical</th>
<th>Simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0^\circ$</td>
<td>216</td>
<td>214.4</td>
<td></td>
</tr>
<tr>
<td>$30^\circ$</td>
<td>187.06</td>
<td>200.2</td>
<td></td>
</tr>
<tr>
<td>$120^\circ$</td>
<td>0</td>
<td>53.46</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$I_o$ [A]</th>
<th>$\alpha$</th>
<th>Theoretical</th>
<th>Simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0^\circ$</td>
<td>46.28</td>
<td>45.95</td>
<td></td>
</tr>
<tr>
<td>$30^\circ$</td>
<td>53.46</td>
<td>42.91</td>
<td></td>
</tr>
<tr>
<td>$120^\circ$</td>
<td>0</td>
<td>11.46</td>
<td></td>
</tr>
</tbody>
</table>

**Activity:** Have a go at Activities One and Two, on the right-hand side of the page, to test what you have learned about the style of a laboratory report.