

The following guidelines have been taken from *I.W. Hunter and B.J. Hughey* at MIT's Department of Mechanical Engineering. For a full description see: <http://web.mit.edu/me-ugoffice/communication/labnotebooks.pdf>

Instructions for Using Your Laboratory Notebook

Why is it Important to Keep a Good Laboratory Notebook?

Keeping a complete and accurate record of experimental methods and data is a vital part of science and engineering. Your laboratory notebook is a permanent record of what you did and what you observed in the laboratory. Learning to keep a good notebook now will establish good habits that will serve you throughout your career. Your notebook should be like a diary, recording what you do, and why you did it. You should feel free to record your mistakes and difficulties performing the experiment - you will frequently learn more from these failures, and your attempts to correct them, than from an experiment that works perfectly the first time. It is extremely important that your notebook accurately record everything you did. A good test of your work is the following question: could someone else, with an equivalent technical background to your own, use your notebook to repeat your work, and obtain the same results? For that matter, **could you come back six months later, read your notes, and make sense of them?** If you can answer yes to these two questions, you are keeping a good notebook.

It is also important to maintain a good laboratory notebook in order to protect your intellectual property (e.g. patents). An appropriately maintained laboratory notebook can often mean the difference between gaining or not gaining recognition for a discovery. U.S. patent law states that inventorship is determined by the "first to invent," not the "first to file." The laboratory notebook can be the key piece of evidence in helping to make that determination.

<http://www.auburn.edu/research/vpr/communications/resnews/nov01.html>

The laboratory notebook forms a permanent record that can be referred to while completing a disclosure report (often the first step in patent preparation) and later, provides accurate documentation of the work done. When an investigator makes an invention during the course of a research project, the dates of the conception and reduction to practice (turning an idea into a reality) become very important. Generally, a sketch and a brief written description are sufficient to establish conception. Reduction to practice is accomplished by actually constructing and successfully testing a material or device incorporating the invention. During prosecution of a patent application before the U.S. Patent Office, or even after issuance of a patent, the filing of another patent application may initiate an interference proceeding to determine which party was the first to invent. Each party has an opportunity to submit documentary proof of his or her dates of conception and reduction to practice. A laboratory notebook may be, and in several high-profile cases *has been* the crucial piece of evidence in this procedure.

Rules for Maintaining your Laboratory Notebook

	<p>Leave several pages blank at the beginning for a Table of Contents and update it when you start each new experiment or topic</p>				
	<p>Always use pen and write neatly and clearly</p>				
	<p>Date every page on the top <u>outside</u> corner</p>				
	<p>Start each new topic (experiment, notes, calculation, etc.) on a right-side (odd numbered) page</p>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">TITLE</td> <td style="width: 20%;">DATE</td> </tr> <tr> <td colspan="2">Objectives and/or purpose of experiment</td> </tr> </table>	TITLE	DATE	Objectives and/or purpose of experiment		<p>Record the TITLE and OBJECTIVES of each experiment (or notes or calculations) at the top of the first page of the notebook dedicated to this topic.</p>
TITLE	DATE				
Objectives and/or purpose of experiment					
<div style="border: 1px solid red; padding: 5px; display: inline-block; margin-bottom: 5px;"> R = 3.256 Ω 3.526 </div> <div style="border: 1px solid green; padding: 5px; display: inline-block;"> R = 3.256 Ω 3.526 <i>miswrote</i> </div>	<p>If you make a mistake, <u>don't obliterate it!</u> You may need to read your mistake later – perhaps you were right the first time! Use a single cross out and EXPLAIN why it was an error.</p>				
	<p>Data typed into the computer must be printed and <u>taped into your lab notebook</u>. Plots of data made in lab should also be printed and taped in your lab notebook.</p>				
	<p>When you record an observation in your notebook, include an explanation of what you were doing at the time. If appropriate, you may just record the step number in the instructions followed by your observation.</p>				
	<p>You must have your lab notebook signed by your lab instructor before you leave lab each day.</p>				