MITS LAB Protocol

WHAT IS IT?

MITS Lab Protocol is a pedagogical initiative that has been followed to structure and conduct the lab course as interconnected whole rather than isolated contingent parts. It maps the laboratory work on to class work and syllabus to enhance the depth of learning. It also helps to engage, involve, and engross the students to make them more imaginative, creative, and independent in problem solving through design and planning of experiments rather than just performing. Lab protocols are prepared by respective faculty in-charges for all laboratories and present to the students in the first contact hour. Lab protocol includes introduction to the experiments, real-time applications, safety procedures to be followed, submission of observation and record, etc.

WHY USE IT?

- **MITS Lab Protocol** enhances understanding of laboratory experiments and their relevance to the engineering profession.
- Conducts lab courses as a continuous process, moving away from isolated experiments.
- The protocol encourages students to 'Engage,' 'Involve,' and 'Indulge,' fostering creativity and independence through the 'Design and Planning' of experiments.
- Each lab course follows the protocol, helping students understand what they will learn and why.
- The protocol helps the students to imagine the real-world situation of engineering connected to the experiment

HOW I DO IT?

Storyboard is a visual representation in the form of images, block diagrams or illustrations displayed for the purpose of pre-visualizing the concepts of the laboratory experiments in a single real-time application. This is presented to the students before conducting practical experiments in the laboratory to create enthusiasm among them.

Lab Course Report: Adapted from: Texas A &M University

1. Abstract
2. Introduction
3. Theory & Background
4. Equipment & Procedure
5. Data Calculations/Results
6. Discussion/Analysis
7. Conclusion

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WHAT SHOULD I CONSIDER?

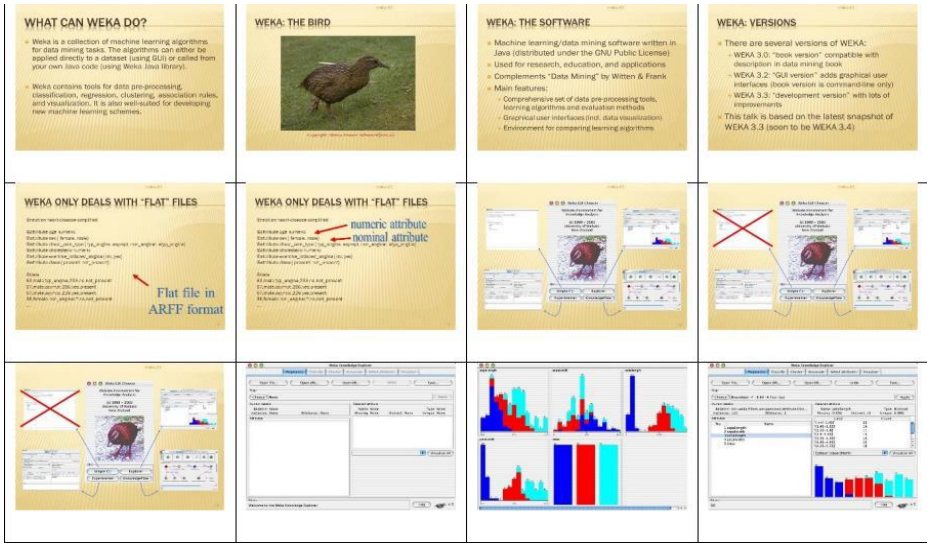
Storyboard format breaks down the protocol visually and textually, making it easier to understand and follow. Illustrations can be used with images for each panel to enhance engagement.

- Step 1: Define your project and objectives.
- Step 2: Develop your script or narrative.
- Step 3: Storyboard structure and format.
- Step 4: Sketch the frames.
- Step 5: Add annotations and details.
- Step 6: Review and revise.
- Step 7: Finalize and share.

Presentation includes

1. Introduction for Corresponding Lab Course ---- Images
2. Purpose of this Lab Course
3. Bringing the Real World Situation – Images / Pictures/Diagrams/Case Studies
4. Learning Approaches
5. Equipments & Specification/Software
6. Course Syllabus
7. Lab utilization
8. Real time set up experiments
9. Safety Precautions
10. Do's & Dont's
11. Protocol Steps

Samples:



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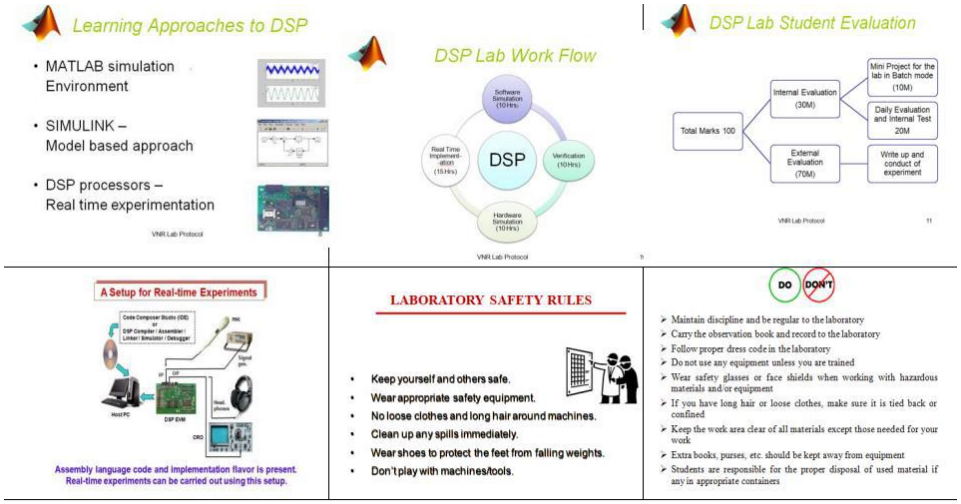

Figure. Sample Lab protocol of DSP laboratory

OTHER TOOLS:

- Digital tools are useful to capture and manage student responses and can be particularly useful for large classes
- How To Make A Storyboard: Essential Tips & Formats - Venngage

WHAT IF I WANT MORE?

- https://www.tamucc.edu/academics/casa/assets/documents/lab-report-tech-writing-aw-vl.pdf
- https://www.ambitec.org/products/t-m-instruments/electronics-design-board/