

Engineering Laboratory Report Writing Project **Fundamental-1: Audiences of Engineering Lab Reports**

Learning Objectives

1. Identifying the audience of engineering lab report;
2. Describing the typical audience expectations from engineering lab report; and,
3. Describing the genre expectations (audience, writer, purpose) of typical engineering lab reports.

Engineering instructors need to:

- Inform who is the audience of the report. *According to ABET outcome 3, students should be able to communicate effectively with a range of audiences. Therefore, the type of audience needs to be given to the students.*
- Specify the audiences' expectations or genre expectations. *Lab reports in engineering labs can be quite different than what students did in science lab or general education writing courses. It is needed to specify the audiences' expectations in written forms such as handouts or assessment rubric.*

Who is the audience of engineering lab report? What are their typical characteristics?

The lab report readers can be the report graders, including lab instructors and/or teaching assistants. However, the reports can also be read by other engineering students, engineers, and/or technicians. Readers of lab reports can be classified as “the technical audience” familiar with the technical material and language. The technical audience (i.e., engineering faculty, engineers, etc.) are the decision makers, problem solvers, effective team members, and good communicators in a team setting to work with the budget and time constraints.

The technical audience's expectations to lab reports in the context of engineering lab courses:

The technical audience expects to acquire “technical information” from lab reports so that they can use them for engineering practices such as design and testing. In the context of engineering lab courses, they want to learn technical knowledge through a student's lab data presentation, analysis, and interpretation, as well as the lab's background information such as engineering principles and processes. They also expect clear, concise (briefly conveying important information), error-free, and logically structured reports with appropriate use of high-quality graphics and charts.

What are the genre expectations from lab reports, and how they are distinct from other college writing?

The following table shows the similarities and differences in the genre (defines the relationship of the audience, writer, and purpose) expectations from typical writing genres for engineering students.

Genre	Typical engineering lab report	Typical science lab report	Research paper of typical freshmen composition courses (e.g., English 101)
Audience	Engineering faculty/students, engineers, etc.	Science faculty, STEM major students, scientists, etc.	Writing faculty, college students, public citizens, etc.
Writer	Engineering undergraduates	STEM major students	First-year college students (multiple majors)
Purpose	To report technical background and lab processes, apply engineering principles to analyze and interpret lab data, and to use engineering judgment to draw conclusions	To address the hypothesis, to confirm or not confirm the hypothesis, and to present procedure or reproducibility	To research, support, and assert a position on a debatable issue using a variety of effective rhetorical strategies
Context	Engineering discipline and profession	Science discipline and foundation of STEM studies	Academic writing and general education

Engineering instructors can use the following sources:

- F1-1: Powerpoint slides about technical audiences and engineering lab report genre [Link]
- F1-2: Example homework questions related to genres in engineering [Link]
- F1-3: Engineering lab report evaluation rubric “samples” [Link]
- F1-4: List of references [Link]