

Engineering Portfolio Showcase

Difficulty Advanced	Time 2-3 class periods	Type Creative Builder
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Background

An engineering portfolio should show how you think, not only display a final object.

Engineering Problem

Transform your strongest project into a concise portfolio case study that demonstrates process, evidence, revision, and communication.

Learning Objectives

- Curate technical evidence
- Explain a design process clearly
- Improve visual and written communication
- Reflect on growth and tradeoffs

Materials

- One completed IED project
- Original notebook and files
- CAD/screenshots/photos
- Presentation or page-layout software
- Portfolio checklist

Procedure

1. Select a project with enough evidence to show at least one meaningful revision.
2. Write a 40-60 word project overview including the problem, user or client, and final outcome.
3. Choose 6-10 artifacts that show problem definition, concepts, CAD, build, test, and revision.
4. Improve one weak artifact, such as a sketch, drawing, photograph, graph, or CAD view.
5. Create a before/after or problem/revision comparison.
6. Write three short captions that explain decisions rather than merely name images.
7. Create a one-page case study or 3-5 slide presentation.
8. Deliver a two-minute presentation and use feedback to make one final revision.

Engineering Requirements

- Show the problem, process, evidence, revision, and result
- Use only your own work or clearly identify team contributions
- Include at least one quantitative result
- Include one honest limitation or unresolved issue
- Use consistent visual hierarchy and readable text

Constraints & Safety

- Do not include private student information
- Do not claim sole credit for team work
- Keep the final case study to one page or five slides
- Use high-quality, appropriately cropped images

Deliverables

- Project overview
- 6-10 curated artifacts
- One improved artifact
- Before/after comparison
- Final case study or slides
- Two-minute presentation
- Final reflection

Reflection Questions

1. What does the portfolio reveal about your engineering process?
2. Which artifact provides the strongest evidence?
3. What did you remove and why?
4. How would you describe your growth this year?

Engineering Tip

Every image needs a job. Include it only if it supports a decision, test, revision, or result.

Common Mistake

A portfolio made only of polished final images hides the engineering process that employers and programs want to see.

Stretch Goal

Create a second version tailored to an internship, college program, or competition audience.

Career Connection

Engineers use portfolios and technical presentations to communicate capability, design thinking, and project impact.