

Aerospace Engineer interview questions

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What to expect

Aerospace engineering interviews tend to mix technical depth with judgement under pressure, since decisions here carry real safety and certification consequences. Expect a panel that includes an engineering manager and at least one senior technical staff member, sometimes alongside a project or program lead.

- **Technical walk-through:** Questions asking you to explain how you'd approach a specific analysis or simulation task, such as setting up a CFD run or FEA model.
- **Behavioural (STAR):** Questions about past situations, particularly ones involving defects, design changes or working with other teams.
- **Scenario and judgement:** Hypothetical problems, often tied to deadlines or certification pressure, testing how you weigh risk and make decisions.
- **Compliance and safety:** Questions probing your understanding of airworthiness requirements and how you build compliance into your day-to-day work.
- **Stakeholder communication:** Questions about translating technical findings for non-technical audiences, since engineers here regularly present to program and client stakeholders.

Interviews usually open with a short discussion of your background and the specific systems or aircraft types you've worked on, move into one or two technical deep-dive questions (sometimes with a whiteboard or a take-home technical task), then shift to behavioural and scenario questions, and close with questions about certification and compliance experience before time for your own questions.

1. Walk me through how you'd set up a CFD simulation to assess aerodynamic performance on a new component.

Why they ask

This tests whether you understand the practical steps of a simulation, not just the theory, and whether you can explain your reasoning clearly.

How to structure your answer

Answer as a step-by-step walk-through: state the objective, describe how you'd build and mesh the model, what boundary conditions and assumptions you'd apply, how you'd validate the results, and how you'd feed findings back into design.

Example answer

"I'd start by clarifying what we're trying to answer, for example drag or lift performance under a specific flight condition. I'd build the geometry in CAD, clean it up for meshing, and set mesh density higher around areas with expected flow separation. I'd apply boundary conditions matching the operating envelope we're testing against, run the simulation in ANSYS, and check convergence before trusting the output. Once I had results, I'd sanity-check them against hand calculations or prior test data, then summarise the findings for the design team with clear recommendations rather than raw numbers."

2. Tell me about a time you found a defect or discrepancy during structural analysis that led to a design change.

Why they ask

This is a common real event in this role and shows how you handle technical problems once you find them, not just whether you can find them.

How to structure your answer

Use STAR: describe the situation and task briefly, focus most of the answer on the action you took, and close with the result and what you'd do differently next time.

Example answer

"While running finite-element analysis on a structural bracket, I found the stress margin near a mounting point was tighter than the certification requirement allowed for the expected load case. I flagged it immediately rather than waiting for the next review cycle, reworked the geometry to redistribute load away from that point, and reran the analysis to confirm the margin was adequate. The revised design cleared the review with no further changes needed, and it reinforced for me the value of catching these things early rather than at the design freeze stage."

3. A supplier's component fails FEA validation two weeks before a certification deadline. How do you handle it?

Why they ask

This checks how you balance schedule pressure against safety and certification integrity, a core tension in aerospace engineering.

How to structure your answer

Answer as a judgement-under-pressure response: state your immediate priority, outline the options you'd weigh, explain how you'd communicate the risk, and state the decision you'd lean toward and why.

Example answer

"My first priority is understanding the scale of the failure, whether it's a marginal miss or a significant structural shortfall. I'd get the analysis details from the supplier and re-run or peer-review the numbers myself if time allowed. I'd then raise the risk to the project lead early rather than sitting on it, laying out the realistic options: redesign, an interim mitigation, or a schedule extension. I wouldn't recommend pushing a component through that hasn't met the required margins just to hold a date, since that risk carries through the whole program."

4. How do you build airworthiness and certification requirements into your day-to-day design work rather than treating them as a final check?

Why they ask

Certification is central to this role, and interviewers want to know compliance is part of your process, not an afterthought.

How to structure your answer

Answer as a process explanation: describe how requirements are identified early, how you track them through design, and how you verify compliance before sign-off.

Example answer

"I try to pull the relevant certification and airworthiness requirements into the design brief at the start, so they're a known constraint rather than something checked at the end. As I work through analysis, I keep a running record against those requirements, whether that's load cases, material certifications or documentation standards. Before anything goes to review, I go back through that record line by line. It's slower up front but it avoids finding a gap late, when it's far more expensive to fix."

5. Describe a time you had to explain a technical finding to someone without an engineering background.

Why they ask

Engineers here regularly present findings to program managers, clients or regulators who don't need the full technical detail, just the implications.

How to structure your answer

Use STAR, but weight the answer toward how you adapted your language and what you left out, since that's the skill being tested.

Example answer

"After a structural analysis showed a margin issue on a component, I needed to explain the implications to a program manager who wasn't across the engineering detail. I focused on what it meant practically: the part wasn't ready for the next build stage, why that mattered for the schedule, and what the fix would involve. I left out the finite-element specifics and stuck to risk and timeline impact, which was what they actually needed to make a decision."

6. What's your experience with CATIA, NX and ANSYS, and how do you decide which tool fits a given task?

Why they ask

Tool fluency matters in this role, and interviewers want to see you understand the strengths of each rather than just listing software you've used.

How to structure your answer

Answer as a comparative technical explanation: name the tools, describe what each is strongest at, and give a concrete example of choosing one over another.

Example answer

"I've used CATIA and NX for CAD modelling and detailed part design, and ANSYS for structural and CFD analysis. I'd lean on CATIA when the work involves complex surfacing or assembly-level design, and NX when I need tighter integration with certain manufacturing workflows. For any load or flow analysis, ANSYS is where that work happens regardless of which CAD tool built the geometry, so a lot of my process is making sure the model translates cleanly between the two before I trust the analysis results."