

Aircraft structures design engineer

Structures design engineers define the aircraft's load-carrying physical arrangement and provide controlled engineering information to other teams. They work with analysis, manufacturing and suppliers; they are not interchangeable with technicians who perform repairs or assemblers who build to an approved definition.

What the role does

- Develop structural requirements and controlled design definition. [EMP1]
- Integrate analytical/test evidence against requirements. [EMP1]
- Coordinate supplier, production and engineering interfaces. [EMP1]

Where the work happens

Boeing's North Charleston wing-and-empennage example is an onsite mid-level engineering role.

Employer example

Boeing Commercial Airplanes • United States • Mid-Level Structures Design Engineer - Wing & Empennage

Active vacancy when checked • Checked 2026-10-27 [EMP1]

Category	What this employer states
Essential in this source	Relevant engineering BSc; five-plus years of related work or permitted education/experience combination. Aircraft structural-design experience, composite-design experience and manufacturing/production exposure.
Desirable in this source	Wing/empennage experience; CATIA/model-based definition; composite primary-structure and regulatory knowledge.

One employer and role; not a worldwide entry rule.

PREPARE AND VERIFY

Separate requirements from preparation

United States - occupational distinction: BLS says entry-level aerospace engineering does not require licensure. This does not confer design approval, delegation or maintenance-certification privileges. [REG1]

Still to verify: Only one independent employer was fully verified for the precise structures-design scope. State-specific professional-engineering and delegated approval rules are outside this guide.

Explore a realistic entry route

- Build mathematics, mechanics and engineering-drawing foundations; compare relevant degree courses and accredited pathways in your jurisdiction.
- Seek projects or placements that connect design assumptions with analysis and manufacturing feedback, rather than collecting software screenshots alone.
- Compare graduate openings separately from this mid-level example, recording any experience and work-authorisation gaps.

Build evidence of your skills

- Model a non-flight desk organiser and write a requirements-to-drawing traceability sheet, including one controlled design change.
- Explain an elementary textbook beam problem with assumptions, units and limitations; do not propose an aircraft design or repair.

Prepare for an interview

Reflection prompts only, not questions claimed to be used by an employer.

- How would you handle disagreement between the model and the requirements?
- What evidence would you need before accepting a supplier's proposed design change?

Investigate possible next roles

Specialist airframe design, integration or technical leadership are possible directions; delegated signatory responsibility is a separate assessment.

Sources and scope

[EMP1] [Boeing Commercial Airplanes Mid-Level Structures Design Engineer - Wing & Empennage](#)

Active vacancy when checked. United States. Checked 2026-10-27.

[REG1] [U.S. Bureau of Labor Statistics Aerospace Engineers - Occupational Outlook Handbook](#)

Occupation guidance Not an engineering board ruling or an aircraft design approval. Checked 2026-10-27.

Educational reference. Verify current requirements with the relevant authority and employer. Job-specific and country-specific conditions are not worldwide eligibility rules. Requirements shown are selected examples, not complete application checklists. A visible listing is not a guarantee that recruitment remains open. Exercises use invented, non-operational material; do not inspect, modify, repair, test or release real aircraft or components. No job guarantee.