Aerospace Workforce Research & Analysis: Assessing and Defining the Workforce Needs in Virginia

Graduate Student Internship Opportunity
Performance Period: November 3, 2025 – January 30, 2026
Compensation: $25/hour. (estimated 20 hours per week for 12 weeks)
Send Resume and Letter of Interest to: Chris Carter, cxcarter@odu.edu.

1. Statement of Need

The Virginia Aviation Business Association (VABA) and Virginia Space Grant Consortium (VSGC) have identified a critical need to better understand and communicate the diversity of jobs within the aerospace sector in Virginia. The current public and academic perception of aerospace careers is narrow, often limited to pilots, astronauts, engineers, and airline staff. However, the industry encompasses a much broader array of roles—including analysts, logisticians, metal shapers, fabricators, electricians, programmers, technicians, aviation maintenance professionals, and more. Many of these jobs fall under various Standard Occupation Codes (SOC) and Standard Industrial Classification (SIC) codes and are not easily identified as "aerospace" positions.

This lack of awareness hinders effective workforce development and academic programming and pathways offered by K-12 schools, Career and Technical Education (CTE) programs, community colleges, trade schools, and higher education. There is a pressing need for targeted research to map these opportunities and inform stakeholders.

2. Internship Objectives

VSGC will fund a student intern to work with VABA and the VSGC to perform research, engage stakeholders, analyze results of a workforce survey, conduct analysis on existing job opportunities and positions, and provide a report and recommendations. Ideal candidate would be a graduate student with strong data and analytical skills and good communication skills. The position duties include interviewing employers to gain insight into their workforce needs. An interest in the field of aerospace is helpful, but not required.

The intern will be mentored by Bud Oakey at VABA and will also work with Chris Carter, VSGC Director, to complete the work. Oakey and Carter will assist the intern with getting connected to stakeholders and other partners to facilitate the initial stage of the research. VSGC will host the online survey and provide a link that can be disseminated to target audiences.

- **Research & Mapping:** Develop a comprehensive inventory of aerospace and support businesses in Virginia.

- **Survey Analysis**: Support the assessment of data from a statewide aerospace workforce survey to analyze results and make recommendations.
- **Stakeholder Engagement:** Conduct interviews with business owners to identify job roles, consistent hiring needs, and required skill sets.
- **Analysis & Reporting:** Synthesize findings into actionable insights for workforce development and academic alignment.
- **Professional Development:** Ensure the intern gains meaningful experience, develops research and communication skills, and produces a tangible work product.

3. Research Tasks

a. Industry Mapping

- Compile a list of aerospace-related businesses (general aviation, advanced air mobility, UAS, manufacturing, maintenance, etc.).
- Reference industry directories, association lists, and state economic development resources.

b. Assess Data from an Online Workforce Needs Survey and Conduct Stakeholder Interviews

- Develop a standardized questionnaire for business owners/managers:
    - What are the job titles for the aerospace positions you employ?
    - Which roles have consistent hiring demand?
    - What skill sets are most critical for these roles?
    - What entry-level opportunities exist?
    - What training or credentials are required?
    - Are there roles that are hard to fill or experiencing shortages?
    - Do you hire student interns or provide other work-based learning experiences?
    - What recommendations do you have for academic programs or workforce development?

c. Data Analysis

- Categorize jobs by function, required education/training, and SOC/SIC code.
- Identify trends in workforce demand and skills gaps.
- Compare findings to existing workforce development initiatives (see BRPHSC Update April 2025.pdf for health science sector models)[2].

d. Reporting

- Prepare a final report summarizing findings, including:
    - Inventory of aerospace jobs and businesses
    - Analysis of workforce needs and gaps
    - Recommendations for academic and workforce development alignment
    - Appendices with interview transcripts and data tables

4. Expected Outcomes

- **VABA:** Actionable intelligence to inform advocacy, policy, and program development.
- **For the Intern:** A professional research report, enhanced communication and analysis skills, and direct engagement with industry stakeholders.
- **For Stakeholders:** Improved understanding of aerospace workforce needs, supporting targeted education and recruitment efforts.

5. Sample Questions for Business Outreach

- What are the top three job roles you consistently hire for?
- Which entry-level positions are available, and what qualifications do they require?
- What skills or certifications are most valuable for your workforce?
- Are there roles that are particularly difficult to fill?
- How do you see workforce needs changing in the next 3–5 years?
- What advice would you give to educators or workforce development professionals?

6. Final Work Product Outline

Aerospace Workforce Research & Analysis: Assessing and Defining the Workforce Needs in Virginia

Title: Virginia Aerospace Workforce Inventory & Analysis

Sections:

1. Executive Summary
2. Introduction & Background
3. Methodology
4. Industry Overview (with reference to [2024 Jobs Deck Boeing.pptx] insights on job diversity and skills)[1]
5. Business Inventory & Interview Findings
6. Workforce Demand Analysis
7. Recommendations for Workforce Development & Academic Programs
8. Appendices (Interview Questions, Data Tables, Business List)

Supporting Insights from Reference Materials

- The [2024 Jobs Deck Boeing.pptx] highlights the diversity of engineering, manufacturing, IT, business operations, and technician roles in advanced air mobility and aerospace, as well as the broad skill sets needed (problem solving, communication, technical proficiency, safety awareness)[1].
- The BRPHSC Update April 2025.pdf provides a model for workforce development, including collaborative approaches, committee structures, and data-driven measures for success. These can inform the structure and evaluation of the internship program[2].

References

[1] 2024 Jobs Deck Boeing

[2] BRPHSC Update April 2025