

Cole Whitfield Lambeth

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EDUCATION

Duke University

B.S.E in Mechanical Engineering, Minor in Physics

Materials Science Engineering Certificate

GPA: 3.92/4.00

Durham, N.C.

Expected May 2029

PROJECTS & EXPERIENCE

Duke AERO Rocketry Team

Solid Propulsion and Machining Engineer

Durham, N.C.

2025 - Present

- Researched and characterized the solid propellant formula through static hotfire test, proposing modifications to improve pourability during processing and propulsion performance.
- Developed, wired, and coded the Mini DAQ, an Arduino-based data acquisition device for onsite pressure and force readings during rocket static hotfire tests
- Modeled, drafted, and machined the load cell adapter for static hotfire tests, enhancing data collection and analysis of pressure readings.
- Prepared and mixed propellant batches for static hotfire test and 2026 Devil's Advocate rocket.

Asteroid Science Bass Connections Team

Frame Modal Engineer and Electrical Systems Lead

Durham, N.C.

2025 - Present

- Researched and designed the electrical power subsystem for a prototype VLEO solar sail spacecraft, covering power generation, regulation, storage, and distribution for avionics.
- Produced electrical schematics and PCB wiring diagrams for the onboard MCU and sensors using KiCAD, ensuring operational efficiency and technical documentation.
- Performed finite element analysis in SolidWorks to evaluate solar sail frame flutter and structural deflection under simulated operating loads.
- Developed a physical solar sail test model and conducted vibration testing, collecting natural frequency measurements validated against FEA predictions.

DukeEngage Asheville

Hurricane Helene Restoration Intern

Asheville, N.C.

June - July 2026

- Surveyed and set out 10+ sites affected by Hurricane Helene, supplying data to local organizations for bridge, road, and culvert reconstruction.
- Assisted field engineers on culvert layout, installation, and site grading.
- Applied vegetative and structural engineering methods to improve embankment stabilization.

ACTIVITIES & LEADERSHIP

Duke Engineers for International Development

Civic Engagement Executive Board

Durham, N.C.

2025 - Present

- Spearheaded financial and social engagement through HundredX funding events and financial presentations, raising over \$5,000 in the 2026 Spring semester.
- Coordinated and marketed several campuswide events to increase student and project engagement.

Lake Norman SCUBA

PADI Jr. Divemaster and Shop Staff

Mooresville, N.C.

2023 - 2024

- Instructed and mentored 20+ students per class on scuba diving fundamentals, emphasizing safety and confidence in open-water settings.
- Led and assisted open-water dives and confined-water training sessions, ensuring effective PADI safety standards and dive operations.
- Managed customer support in a retail setting, advising clients on gear selection, rentals, and training options.
- Blended breathing gases and filled air and nitrox scuba cylinders to specified pressures and oxygen concentrations.