

ANDREW DILLON

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EDUCATION

California Polytechnic State University - San Luis Obispo (Cal Poly)

Sep. 2024 – Present

Bachelor of Science in Mechanical Engineering

Expected Graduation: Spring 2028

Overall GPA: 3.96

- Dean's List: Winter 2025, Spring 2025, Fall 2025, Winter 2026, Spring 2026
- College of Engineering Student Spotlight: September 2025
- LOOP Scholarship (Class of 2028): Honors one engineering student per graduating class for academic and personal excellence

Coursework: Mechanical Design; System Dynamics; Thermodynamics; Fluid Mechanics; Mechatronics; Circuits; Mechanics of Materials; Dynamics; Linear Analysis; Ansys; SolidWorks; MATLAB; Manufacturing Processes; Design for Strength & Stiffness.

TECHNICAL SKILLS

Design & Manufacturing: NX, SolidWorks, Fusion, AutoCAD, GD&T, Tolerance Stacking, CNC Manufacturing, Additive Processes

Automation & Analysis: MATLAB, Ansys, NX Nastran, Process Automation (Python, VBA), Excel

Interpersonal: Bilingual in Spanish, Leadership in Fast-Paced Environments, Technical Communication

WORK EXPERIENCE

Lam Research

June 2026 – August 2026

Mechanical Engineering Intern

Fremont, CA

- Owned mechanical assembly design from concept development through component drawing release.
- Analyzed legacy design to establish system-level requirements for the new assembly.
- Created detailed NX CAD assemblies to evaluate competing design concepts and support down-selection.
- Developed critical-path tolerance stacks, rotation models, and a full-assembly FEA model to verify requirement compliance.
- Applied GD&T and limit dimensioning based on tolerance-stacks to ensure functionality, manufacturability, and proper fit.
- Coordinated adjacent-system interface changes to ensure successful design integration.

Nova Group, Inc.

June 2025 – September 2025

Operations Intern

Napa, CA | Tokyo, JP

- Supported daily operations across three defense infrastructure projects (\$225M total value), tracking status and invoices.
- Developed Python/VBA tools to automate image geo-tagging in Google Earth and specification reference linking in Excel.
- Red-lined P&ID sheets per MIL-STD and performed pipe/fitting takeoffs to identify flaws in estimation process.

Cal Poly Machine Shops

September 2025 – Present

Senior Shop Technician

San Luis Obispo, CA

- Training students on lathes, mills, welding, laser, 3D printing; giving technical advice on design for manufacturability.
- Performing diagnostics and maintenance on Bridgeport and Clausing machines, addressing belt and bearing issues.

Cal Poly Industrial and Manufacturing Engineering

January 2026 – June 2026

Teaching Assistant

San Luis Obispo, CA

- Instructed students in machine tool operation, metrology practices, and technical drawing interpretation during hands-on labs.

Hughes Architecture + Design

June 2023 – August 2023

Design Intern

Napa, CA

- Drafted floor plans and developed details in AutoCAD, created fixture and appliance lookbooks for clients.

LEADERSHIP

Cal Poly Wind Power

September 2024 – Present

Designed, manufactured, and tested a scale wind turbine prototype for the Collegiate Wind Competition.

Overall Team Lead

June 2026 – Present

- Coordinating subteam progress to full-system integration and aligning year-long design goals with competition objectives.
- Designing and manufacturing a four-bar linkage blade-pitching mechanism for power optimization, control, and braking.

Outreach Team Lead

September 2025 – June 2026

- Led outreach and professional networking events; organized member support for a \$3M offshore wind funding package.

Structures Team Member

September 2024 – June 2026

- Led driveshaft subsystem (Sep 2025–June 2026), coordinating design ideation, component selection, and system integration.
- Developed MATLAB tools to quantify and validate design geometry, integrating results into Fusion modeling and Ansys FEA.
- Machined turbine components and designed heat-insert tear-out tests to validate generator-mount factor of safety.

PROJECTS

Heat-Treated Carabiner | DFM, Spring mechanism design, CAD/CAM, CNC Mill

March 2026 – June 2026

- Designed and manufactured a functional spring-loaded carabiner with reliable operation and unique detailing.

Heat-Treated Bolt-Action Pens | DFM, Kinematic constraints, CAD/CAM, Manual Lathe, CNC Mill

December 2023 – June 2024

- Developed a compact bolt-action mechanism built around precise internal travel, ink cartridge fit, and a seamless exterior.

Anodized CNC Chess Sets | DFM, Repeatable production, Anodizing, CAD/CAM, CNC Lathe, CNC Mill

November 2022 – June 2023

- Produced two full chess sets with 64 finished pieces, detailed geometry, repeatable production methods, and anodized finishes.