Audra K. Daniels

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EDUCATION

Merrimack College, North Andover, MA — Expected: May 2027
Bachelor of Science in Mechanical Engineering, Minor in Mathematics — GPA: 3.64
Honors: Merrimack President's Scholarship, President's List Recipient
Relevant Courses: Dynamics and Vibrations, Thermodynamics, Advanced Materials, Statistics, Coding in MATLAB and 3D CAD, Finite Element Analysis

PROJECTS

Load-Sensing Intelligent Platform - **Research Poster** — 2025 – Present
- Used Arduino to create fluid and mechanical lab systems for student use
- Integrated bending beam load cells to detect placement of objects on a platform
- Provided a scalable, affordable, and deeply engaging framework for classroom labs

VEX Robotics Mechanical Design - **Robotics Club** — 2023 – Present
- Developed robot to manipulate objects with precision using VEX kit and Python
- Applied collaborative leadership strategies - maximized skills of each team member
- Competed at VEXU event against other college teams

Loop Rollercoaster - **Dynamics & Vibrations** — Fall 2025
- Designed and developed successful marble loop model
- Validated computational models by comparing simulated results using Simulink to experimental data
- Utilized welding, hand-tools, and 3D printing to build and refine model

Inverted Pendulum Design and Manufacture - **Individual Project** — Spring 2025
- Commissioned by faculty to design and build pendulum for an upper level class studying PID controllers
- Designed and fabricated custom parts using Autodesk Inventor and 3D printer
- Leveraged problem solving and prototyping skills to refine design

Trained an AI Academic Advisor, Prompt Engineering Project - **Coding in MATLAB & 3D CAD** — Fall 2024
- Planned project timeline, coordinated tasks, and ensured successful deployment as team leader
- Implemented ChatGPT create student scheduler prototype with complex variables
- Delivered accurate results and received positive end-user feedback

Lightweight Bridge Design Project - **Introduction to Engineering** — Fall 2023
- Created a manila folder bridge that met all specifications and constraints prescribed
- Outscored other teams on weight capabilities within parameters

FIRST Tech Challenge - Mechanical Design - **FIRST Robotics** — 2015 – 2018
- Won NH State Champion 2016 and received multiple awards each year
- Participated in build group and drove robot in competitions

EXTRACURRICULAR ACTIVITIES & LEADERSHIP

President - **Merrimack College Robotics Club** — September 2023 – Present
Vice President - **Society of Women Engineers** — September 2023 – Present
Student Chapter Member - **American Society for Mechanical Engineers** — September 2023 – Present
Activate Mentor **- Activate Program** — September 2024 – Present

WORK EXPERIENCE

Court Monitor **- Altitude Trampoline Park**, Pelham, NH — May 2025 – Present
- Monitor participant safety, cashier
- Maintain performance and usability of equipment

Apprentice - **Johnson's Farm**, Windham, NH — May 2023 – November 2024
- Planting, weeding, harvesting
- Assist with infrastructure maintenance