

Elsa Bieger

Minneapolis, MN | 612-666-9217 | ebieger@smith.edu | <https://www.linkedin.com/in/e-bieger>

Education

Smith College

Northampton, MA

Bachelor of Science, Engineering Science (ABET Accredited)

Expected May 2025

GPA: 3.82; Major GPA: 3.87

Selected Coursework: Signals and Systems, Fluid Mechanics, Circuit Theory, Thermodynamics, Mechanics, Engineering for Energy and the Environment

Skills

AutoCAD, CREO, SolidWorks, Python, MATLAB, Mathematica, Arduino Microcontrollers, 3D Printing, Laser Cutting, Technical Writing, Microsoft Office, Japanese

Familiar with: Lathe Operation, CNC Machining, Circuit Design, C++, R

Relevant Experience

Studio Design Partner

August 2023 - Present

Design Thinking Initiative - Smith College

Northampton, MA

- Led student training for laser cutters, 3D printers, CNC machines, and sewing machines.
- Advised students on class and creative projects, increasing space accessibility.
- Monitored equipment and fixed or flagged broken machinery whenever issues arose.

R&D Sustaining Intern, Mechanical Engineering

June - August 2023

STERIS

Plymouth, MN

- Created, wrote technical documentation for, and implemented a sustaining plan for standard work in validating endoscopes with a reprocessing machine.
- Designed and prototyped part that expands potential applications of an existing machine.
- Identified gaps in customer-facing instruction manuals and effectively communicated across departments with marketing and clinical education to make changes.

Project: Model Energy-Efficient Building

October - December 2021

Engineering for Energy and the Environment - Smith College

Northampton, MA

- Collaboratively researched, designed, and built 1:50 scale model energy-efficient building, using AutoCAD and coding Arduino microcontrollers with C++.
- Successfully achieved an automated comfortable indoor temperature for 12+ hours over a winter day and night using only direct solar heat for heating and vents for cooling.

Research Assistant

August 2021 - May 2023

Historical Clothing Collection - Smith College

Northampton, MA

- Initiated research projects documenting historical clothing, organized materials for publication of a book featuring the Smith College Historical Clothing Collection.

Team Member, Fabric Cutting Counter

October 2020 - August 2021

JoANN Fabric and Craft Stores

Edina, MN

- Advised customers on all crafting projects, solving mathematical and creative problems efficiently to determine yardage and materials needed.
- Adapted advice for skill level and equipment, ensuring excellent communication.

Literature Teaching Fellow

June - August 2019

Breakthrough Minneapolis

Minneapolis, MN

- Designed and taught 40+ hours of literature curriculum to 14 eighth grade students.
- Chaired faculty committee for social-emotional learning.
- Implemented techniques learned in 80+ hours of professional development training.

Additional Leadership Experience

Captain of NCAA Division III Swimming and Diving Team (2022-2023 season)

- Managed team decisions under pressure, organized events, committed 15+ hours per week to training and competition while maintaining course load.