

# Elliott Robb Tanner

3335 Virginia Avenue South, Minneapolis, MN 55426 | [robbt001@umn.edu](mailto:robbt001@umn.edu)

## Education

---

University of Minnesota | College of Science & Engineering  
B.S. Physics, Mathematics Minor, 3.44GPA / 3.56GPA Major      Sept 2019 - Expected May 2022  
Minneapolis, MN

Normandale Community College  
A.S. Mathematics, High Honors Graduate, 4.0GPA  
Bloomington, MN  
May 2020

## Relevant Coursework

---

- Quantum Physics
- Quantum Mechanics
- General Relativity
- Math Modeling
- Math Methods for Physicists
- Analytical Mechanics
- Statistical and Thermo Physics
- Experimental Physics
- Solid State Physics
- Nuclear and Particle Physics
- Electricity and Magnetism
- Modern Physics Laboratory

## Research Experience

---

University of Minnesota  
Department of Physics, Supervising Professor: Dr. Andrew Furmanski      Minneapolis, MN  
October 2020 - Present

Short-Baseline Neutrino Program at Fermilab, Undergraduate Research Assistant

Under the guidance of Dr. Andrew Furmanski, my research project involves the SBN program. I generate simulations of the production of cosmic muons in the SBND (Short-Baseline Near Detector) and their interaction with the simulated liquid argon chamber. The reactions work as a serviceable analogue for the interactions neutrinos have with the detector. My work determines the effects of Rayleigh scattering on the photons emitted during the reaction. This project is ongoing into the Spring 2022 semester with an UROP award.

## Core Skills

---

- C
- Python (including ROOT module)
- MATLAB
- Mathematica
- LaTeX
- Data analysis
- Computational and data-processing skills

- Knowledge of mathematical modeling
- Strong oral/public speaking skills (including live national public broadcast experience)

## Volunteering Experience

---

College Level Mathematics and Physics Tutor, University of Minnesota	9/2019 - Present
College Level Mathematics Tutor, America Reads America Writes	1/2019 – 5/2019

## Awards & Recognition

---

- Undergraduate Research Opportunities Program (UROP) Award Recipient, Dec. 2021
- Dean’s List, University of Minnesota, Spring 2020
- Dean’s List, University of Minnesota, Fall 2019
- 4-Year University of Minnesota Presidential Scholarship Recipient, 2019
- Dean’s List, Normandale Community College, 2017-2018, 2018-2019
- 2<sup>nd</sup> Place on AMATYC National Math Test, Normandale Community College, 2019
- Awarded Young Scholar Scholarship, Normandale Community College, 2019
- Awarded Mu Alpha Theta Member Who Made Notable Leadership Contributions, 2019
- 2<sup>nd</sup> Place AMATYC National Math Test, Normandale Community College, 2018

## Campus Clubs & Societies

---

- National Society of Physics Students (SPS) Member 2020 – Current
- Mathematics Club Participant, University of Minnesota 2019 - Current
- Phi Theta Kappa, Member, Inducted 9/2018
- Mu Alpha Theta Member, Inducted 9/2018
- S.T.E.M. Club Participant, Normandale Community College, 2017-2019

## Notable Opportunities

---

- Directed Reading Program (DRP) Participant, University of Minnesota, Fall 2020
- Quantum Computing Class Participant, Qubit x Qubit, Summer 2020
- IMA Math Modeling Program Participant, University of Minnesota, Summer 2019

## References:

---

Professor Andrew Furmanski, University of Minnesota	afurmans@umn.edu
Professor Daniel Cronin-Hennessy, University of Minnesota	croni028@umn.edu
Professor David E. Kaplan, Johns Hopkins University	david.kaplan@jhu.edu