

Collin Collins

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EDUCATION

Ohio University

Athens, OH

Bachelor of Science in Physics, Minor in Mathematics (GPA: 3.98/4.00)

Aug 2021 – May 2025 (*Expected*)

- Distinguished Professor Scholarship Recipient
- John E. Edwards Fellowship Recipient
- Dean's Scholarship Recipient

EXPERIENCE

Research Intern, Computational Condensed Matter Physics

May 2023 – Present

Dr. Castillo Research Group, Ohio University

Athens, OH

- Developing and running molecular dynamics simulations of supercooled diatomic liquids using high performance computing (HPC) resources at a supercomputer cluster to investigate dynamical heterogeneity in glass-formers.
- Creating Python scripts to measure new relaxation metrics in terabyte-scale datasets, presenting the findings through Matplotlib visualizations.
- Gave an [oral presentation](#) at the 2025 American Physical Society (APS) Global Physics Summit.
- Presented 2 novel research posters at the 2024 and 2025 NQPI Research Session and OU Student Research Expo.
- Gave a [talk](#) at the 2025 NQPI Seminar Series at Ohio University.
- Gave an [oral presentation](#) at the 2024 APS ECLS conference.

Teaching Assistant

Aug 2023 – Present

Department of Physics and Astronomy, Ohio University

Athens, OH

Introduction to Physics (PHYS 2001)

Jan 2024 – Present

- Led weekly lab sessions, guiding students through hands-on experiments and data analysis.

General Physics I (PHYS 2054)

Aug 2023 – Dec 2023

- Supported lecture topics from kinematics to kinetic theory by hosting weekly peer-led team learning sessions.

Supplemental Instruction Leader – Differential Equations

Aug 2023 – Aug 2024

Mathematics Department, Ohio University

Athens, OH

- Created and structured the Supplemental Instruction course for MATH 3400.
- Created and typeset [110+ pages of detailed problem sets in LaTeX](#), emphasizing clarity of logic.
- Delivered biweekly group sessions to reinforce solution strategies for 15+ types of differential equations.

Research Intern, Computational Solid State Physics

Mar 2024 – Aug 2024

Dr. Govorov Research Group, Ohio University

Athens, OH

- Used MATLAB to analyze nonlinear charge carrier spreading in voltage-controlled lateral superlattices.

Physics & Math Peer Tutor

Oct 2022 – Oct 2023

Department of Physics and Astronomy, Ohio University

Athens, OH

- Provided one-on-one tutoring for Calculus, General Physics, Linear Algebra, and Differential Equations.

Records Assistant

May 2017 – Aug 2019

Tropic Air

San Pedro, Belize

- Digitized two decades of parts and flight logs using in-house Aircraft Records Management System (ARMS) for a fleet of 14 Cessna 208s and 2 Cessna 182Ts.
- Maintained the company's compliance with the Belize Department of Civil Aviation's directives.

SKILLS

Programming/Tools: Python, MATLAB, SQL, \LaTeX , LAMMPS, Git, Linux, HPC, Matplotlib, Pandas

RELEVANT COURSEWORK

Physics:

- **Core Coursework:** General Physics I & II, Contemporary Physics, Classical Mechanics, Thermal Physics, Quantum Mechanics, E&M I
- **Elective Coursework:** Fundamentals of Astrophysics, Observational Astrophysics, Special Topics in Condensed Matter Research
- **Laboratory Coursework:** Electronics Lab, Electrons & Photons Lab, Photons & Nucleons Lab

Mathematics:

- Calculus I, II, III, Applied Linear Algebra, Differential Equations, Fourier Analysis & PDEs, Applied Numerical Methods

Other:

- Computer Programming in Java