

## Biographical Sketch of Duane B. Merrell

### A. Professional Preparation

College of Eastern Utah	Pre-Engineering	AS	June 1980.
Utah State University	Education, Math, Physics,	BS	June 1985.
Utah State University	Instructional Design,	MS	June 1988.

### B. Appointments

1985	Sky View High School, Smithfield, Utah, Student taught 1985, Adult Education, Mathematics and Astronomy, 1985.
1986	Snowflake High School, Snowflake, Arizona, Mathematics and Physics,
1986-2004	Emery High School, Castle Dale, Utah, 1987-2004
2004-2010	Assistant Professor Physics Teaching
2010-	Associate Professor Physics Teaching
2017-	Professor "Physics Teaching"

### D. Synergistic Activities

1. Wrote and Produced Video Tape: Science, Not a Spectator Sport.
2. Operation Physics Team Leader, 1989.
3. Physics Demonstrator Utah Science Teacher Meeting, 1990-2026.
4. Utah State Office of Education Summer Workshops Instructor Physics, 1992-2026
5. C3P Mentor Physics Teacher Leader trained 1996-98
6. Modeling Physics Teacher Training 1998-1999
7. Physics Teaching Resource Agent Summer 2002-Present
8. Idaho PTRA training 2004-2020
9. Utah State Physics Core Curriculum consultant, 2002-Present
10. American Association of Physics Teacher Laboratory Committee, Teacher Preparation Committee, High School Physics Committee 2005-2014.
11. Presidential Science Award Reviewer, Utah State, 1996-present
12. Space Explorers Utah Convention Planning Committee, 2005
13. Executive Officer Utah Science Teachers Association 2009-present
14. Director USTA Profession Development courses 2013-2024

### F. Awards and Recognition

1. Physical Science Teacher of the Year Utah (USTA) 1995
2. Utah Teacher of the year Runner up, 1992
3. Emery School District Teacher of the Year, 1991
4. Teacher of Teachers award 1993, Presented by State Science Coordinators.
5. Presidential Award in Science Teaching, Awarded 1994
6. President Utah Science Teachers Association, 1998 and 2001
7. Governor's Medal for Science and Technology 1998, Utah:

8. Outstanding Physics Teacher State of Utah, 2000 from Utah Idaho Association of Physics Teachers.
9. Outstanding Science Educator Award, Utah Science Teachers Association, 2000.
10. Colloquium BYU Fall 2005 “The Physics of Hollywood and other tools to teach physics”
- 11 Cluff Award of Outstanding Teaching, BYU, 2010
- 12 Dick Peterson Lifetime Award USTA, 2013
- 13 Outstanding Professional Faculty Brigham Young University 2018
- 14 Outstanding Mentor Brigham Young University 2021
- 15 Homer Dodge AAPT service award, 2019

G. Memberships

1. American Association of Physics Teachers, Elected Presidential Chain 2021-2025
2. National Science Teachers Association
3. Utah Science Teachers Association
4. Physics Teaching Education Coalition

Family: Married to Tammy Rae Merrell 1982 to Present.

Children

Blake J Merrell (Manufacturing Engineer), Wylee Merrell (Asphalt Plant Manager, Construction and Electronics), Tahna Rae Merrell (Technology Education Teacher), Danee Merrell (Special Education Teacher).

# NATHAN VAN DYKE

GRADUATE STUDENT

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## CAREER SUMMARY

Graduated with a Bachelor of Science in Physics Education in April of 2025. Utah State Board Certified teacher with credentials in Physics and Middle School Science. Participated in Physics Education Research while completing my degree, both as an undergraduate and as a graduate student.

## EDUCATION AND CERTIFICATION

MS Physics | Brigham Young University 2027  
BS Physics Education | Brigham Young University 2025

## TECHNICAL SKILLS

Copilot AI | Microsoft Office | Google Suite | Mathematica | Python | VSCode

## WORK EXPERIENCE

**Graduate Instructor** | Brigham Young University 2026- Present

- Teacher of record for a sophomore level lab class for Physics majors.
- Running lab activities and providing both formal and informal instruction.
- Teaching skills such as circuitry, coding, data analysis, and group work.

**Research Assistant** | Brigham Young University 2023- 2025

- Worked on research in an interdisciplinary science and history course.
- Created data collection tools and applied mixed methods analysis.

**Teaching Assistant** | Brigham Young University 2022- 2025

- Teaching Assistant for all introductory physics courses at BYU (PHSCS 105, 106,121), both algebra-based (105, 106) and calculus-based (121).
- Teaching Assistant for lab-based courses (107, 108), ran all lab activities, taught skills in laboratory investigation, data collection and analysis, presentation.
- Teaching Assistant for introductory modern physics course (222), content mastery of intro-level quantum mechanics, nuclear physics, and relativity.

## ADDITIONAL SKILLS

California Seal of Biliteracy in Spanish | Bakersfield, CA 2018  
Spanish instructor | Church of Jesus Christ of Latter-Day Saints | Bogota, Colombia 2019  
Co-instructor for EnglishConnect courses | BYU Pathways | Colombia 2019