

EMILY MANWELL

(208) 901-2400

emilymanwell@u.boisestate.edu

PROFESSIONAL STATEMENT

Motivated and detail-oriented undergraduate pursuing dual majors in Biology and Music at Boise State University. Experienced in laboratory research, patient care, and interdisciplinary communication. Skilled in molecular biology, data analysis, and teaching complex concepts. Passionate about integrating science, art, and technology to advance research and education.

EXPERIENCE & EDUCATION

Boise State University – Bachelor of Science in Cellular, Molecular, and Biomedical Biology (Expected Dec 2027)

Bachelor of Arts in Music (Expected Dec 2027)

Minor in Chemistry and Spanish

St. Luke's Health System — Certified Nursing Assistant, Pre-Op (2023 – Present)

- Provide preoperative care and monitor patient vitals in a fast-paced surgical setting.
- Collaborate with nurses, anesthesiologists and surgeons to ensure procedural readiness and patient safety.
- Apply biological and medical knowledge to support high-quality patient outcomes.

Horizon Home Health and Hospice — Certified Nursing Assistant (2019 – 2022)

- Delivered end-of-life care with compassion and attention to patient comfort.
- Maintained accurate records and supported interdisciplinary teams in care coordination.

English Teacher — Online Instructor, Magic Ears (2020)

- Taught interactive English lessons to international students ages 4–12 using digital platforms.
- Adapted teaching methods to diverse learning styles and maintained engaging virtual classrooms.
- Strengthened cross-cultural communication and developed innovative remote teaching approaches.

Nanny — Private Family (Julie & Parker Brown) (2019)

- Provided attentive childcare, balancing play, education, and structured routines for multiple young children.
- Supported cognitive and emotional development through creative and educational activities.
- Maintained household organization and scheduling in collaboration with parents.

Veranda Senior Living — Assisted Living and Memory Care — CNA Team Lead (2018 – 2019)

- Supervised a team of CNAs in providing compassionate, high-quality care to residents.
- Coordinated care schedules and delegated assignments to ensure full staff coverage.
- Maintained compliance with healthcare standards.
- Recognized by leadership for reliability, professionalism, and strong interpersonal communication.

Private Music Instructor — Flute and Piano Teacher (2018 – 2023)

- Designed personalized lesson plans and coached 20+ students in performance technique and theory.
- Cultivated creativity, discipline, and confidence through individualized instruction.

Certified Nursing Assistant — Certification Completion (2018)

- Completed state-approved CNA training focused on patient safety, and infection control.
- Demonstrated proficiency in vital signs, patient mobility, and care documentation.
- Developed foundational clinical communication and teamwork skills in healthcare settings.
- Earned certification through Idaho State Board of Nursing following practical and written evaluation

PROJECTS & RESEARCH

Glycocalyx in Eosinophilic Esophagitis Data Sonification — Vertically Integrated Research Program (2025–Present)

- Conducting interdisciplinary research translating **cellular and molecular glycocalyx data** from eosinophilic immune cells into **musical soundscapes** through data sonification.
- Analyzing biological datasets to identify **patterns in protein and sugar composition** associated with **Eosinophilic Esophagitis (EoE)**, an autoimmune condition affecting the esophagus.
- Utilizing computational tools (R, Python, and TidalCycles) to map biological data parameters to **pitch, rhythm, and harmonic structure** in generative music systems.
- Collaborating with biology, music, and computer science faculty to explore **biological data visualization through sound** as an innovative method for scientific communication.
- Preparing research documentation and presentation materials for **poster sessions and undergraduate research symposiums**, emphasizing the intersection of **biomedical data and auditory design**.

Research Presentation on Magnetotactic Bacteria (2025)

- Investigated magnetotactic bacteria distribution and their implications in biological sciences.
- Analyzed data using scientific literature review and computational biology techniques.
- Presented findings in academic settings, showcasing strong scientific communication skills.

AWARDS, ACCOMPLISHMENTS

- 3.74 GPA – College
- 4.06 GPA – High School
- Top 10 Scholar Nominee – 2025
- BSU Dean's List 2021-2022, 2025
- Concerto Aria Competition Finalist (2022)
- Symphonic Winds – 2nd Chair Flutist (2022)
- 4th Place Flutist at Idaho State Competition (2018)
- Recipient of Dr. William Vennen Health Science Honors Scholarship (2025)
- Recipient of Biology Department Scholarship (2025)
- Recipient of Nancy A. Cameron Davidson Pre-Med Scholarship (2025)

ACTIVITIES

- 5,000+ hours clinical experience (surgical, hospice, home health, memory care, assisted living)
- Phi Kappa Phi Honor Society Member (Present)
- Biology Club Member (Present)
- Phi Sigma Rho – Alpha Nu Chapter (Present)
- Honors College Member (Present)

LABORATORY & TECHNICAL SKILLS

- Spectrophotometry
- Microscopy
- Solution preparation & mixing
- Data analysis (R, Python, Excel)
- Statistical computing & visualization
- Patient data charting
- Bioinformatics fundamentals
- Scientific writing and literature review
- Laboratory communication and documentation
- Medical terminology
- Chromatography
- Distillation
- Extraction

RELEVANT COURSEWORK

- Communication in Biology
- Evolutionary Biology
- Ecology
- Intro to Cellular & Molecular Biology
- General Chemistry I & II
- Anatomy and Physiology I & II
- Medical Terminology
- Statistics
- Psychology Courses
- Sociology Course
- Organic Chemistry
- Calculus I

TRANSFERABLE & PROFESSIONAL SKILLS

- Scientific and analytical reasoning
- Strong interpersonal communication
- Leadership and team management
- Teaching and mentoring
- Multidisciplinary collaboration
- Organization and time management
- Creativity and innovation (data-to-sound modeling, musical-scientific integration)
- Emotional intelligence and patient-centered care

LANGUAGES

- English (native)
- Spanish (advanced/intermediate)
- Korean (basic)