

Objective

Motivated, interdisciplinary, and research-focused engineering student in an accelerated BS/MS program in Chemical Engineering with a minor in Nanotechnology. My interests include nanoscale materials, circular resource systems, sustainability, and environmental engineering, with applications to water and energy security, ecological remediation, and future infrastructure on land, at sea, and in space, including manufacturing, mobility systems, and advanced transportation and exploration technologies. I plan to pursue further research focused on advancing resilient, sustainable, and exploratory technologies that address scientific and engineering challenges of national and global importance.

Research & Work Experience

Innovation Advocacy Group - Florida Institute of Technology Melbourne, Florida

- Conduct research for student startup designing automated testing and delivery systems as part of larger self-contained aquaponics project.
- Provide support using Arduino, CAD, PCB and 3D printing skillset.

Innovative Material Research Intern - Florida Institute of Technology Melbourne, Florida

- Conducted innovative research on biochar-based materials for water treatment and pollution mitigation/environmental remediation of harmful algal blooms (HABs).
- Focus included material synthesis, nano-structural analysis, using TEM and UV-Vis Spectroscopy for characterization and zeta potential analysis for optimization.
- Research supports circular economy principles and sustainable, nature-based environmental engineering.

International Sustainable Material Testing Protocol & Market Research Intern – Nido, Es Barcelona, Spain

- Collaborated with a globally recognized, award-winning sustainable materials company under NDA to support the international market launch of an innovative, nature-based building material.
- Conducted in-depth research on international testing standards, certification pathways, and performance benchmarks.
- Developed draft protocols and validation frameworks critical to the product's global certification, regulatory acceptance, and market readiness.
- Work directly supports sustainable and resilient infrastructure solutions.

Choice Words LLC New Paltz, New York

- Assisted with research on grant opportunities and supported preparation of application materials.
- Supported social media needs, including content organization and basic updates.
- Assisted with administrative tasks such as document formatting, filing, and organizing digital files.

Club Z! Tutoring Services Online

- Math, Chemistry, and English tutoring for high school and college students.

Restaurant Server and Childcare New Paltz, New York

Core Competencies & Skills

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| • Laboratory Research (Biochar for HAB remediation) | • Ultraviolet-Visible (UV-Vis) Spectroscopy | • Scientific & Technical Writing |
| • Chemical Process Optimization | • Computational Modeling for Material Analysis | • SCUBA Certified (PADI) |
| • Nanomaterials Engineering | • Data Analysis (Excel, MATLAB, DataFit, LabVIEW) | • Bilingual: English & Spanish (Biliterate) |
| • Transmission Electron Microscopy (TEM) | | |

Education

Florida Institute of Technology Melbourne, Florida

Bachelor of Science: Major- Chemical Engineering, Minor- Nanotechnology (GPA 3.5)

Accelerated Master of Science: Chemical Engineering

Coursework: Materials Characterization, Equilibrium Thermodynamics, Nanotechnology, Transport Phenomena, Catalytic Reactor Design, Heat Transfer Processes, Mass Transfer Processes, Chemical Engineering Thermodynamics, Chemical Processes Lab, Separation Processes, Chemical Engineering Reactor Design, Chemical Engineering Plant Design, Materials Characteristics Lab, Heat Transfer Processes, Mass Transfer Processes, Chemical Engineering Thermodynamics, Advanced Computational Methods for Engineering Applications, Basic Economics, Transport Processes, Chemical Process Control, Introduction to Environmental Engineering, Basics of Making, Organic Chemistry 1 & 2 + Labs, Physical Chemistry 1 & 2 + Labs,

Biological Discovery 2, Nano-Science & Technology Lab, Chemical Process Principles 1 & 2, Materials Science + Labs, Organic Introduction to Partial Differential Equations & Applications, General Chemistry 1 & 2 + Labs, Scientific & Technical Communication, University Experience, Calculus 3.

Palm Bay Magnet High School / Florida Institute of Technology Dual Enrollment Melbourne, Florida

Coursework: Calculus 1&2, Differential Equations, Physics 1&2+Labs, Intro to Chemical Engineering 1&2, Chemistry 1&2+Labs

New Paltz High School New Paltz, New York

Coursework: AP Chemistry, AP English Language, AP English Literature, Astronomy, Biology, Earth Science, Macroeconomics, Introduction to Calculus

SUNY College New Paltz New Paltz, New York

Coursework: College Spanish 4 & 5

SUNY College Ulster Stone Ridge, New York

Coursework: Honors English, Honors Western Civilization, Intermediate Algebra & Trigonometry, Calculus 1

Instituto Hemingway Bilbao, Spain

Coursework: Spanish Language, History, Food & Culture, Volunteering

Honors and Awards

- Barry Goldwater Scholar Nominee - Florida Institute of Technology
- Gilman Scholar
- SMART Scholarship Interviewee
- Florida Tech Dean's List
- Phi Eta Sigma Honor Society
- Balkhi Foundation Scholar
- Society of Women Engineers Scholar
- Women in Defense Scholar
- Brevard County and Florida State Scholar
- Varsity Lacrosse and Swim Awards
- ACT National Top 1% Scholar - Score 35/36
- AP National Scholar
- Certified Spanish Bilingual Award

Extracurricular Activities & Leadership

- Florida Tech Sailing, Scuba, and Surf Club
- Varsity & Club Lacrosse Teams
- SUNY Hawks Varsity Swim Teams
- Mock Trial & Mathletes Team
- All County Band
- Environmental Club
- Sailing Club & Wooden Boat School Volunteer
- Youth Program Volunteer Tutor
- Spain Homestay: Language Immersion & Volunteering

Professional Associations

- American Institute of Chemical Engineers (AIChE)
- American Society of Mechanical Engineers (ASME)
- American Society of Nondestructive Testing (ASTN)
- American Society for Quality (ASQ)
- Society of Women Engineers (SWE)
- American Academy of Environmental Engineers & Scientists (AAEES)
- Association of Energy Engineers (AEE)
- Institute of Electrical and Electronics Engineers (IEEE)
- Women in Aerospace (WIA)
- Marine Technology Society (MTS)
- Society for Manufacturing Engineers (SME)
- Society for Experimental Mechanics (SEM)
- International Biochar Initiative (IBI)
- Biodegradable Products Institute (BPI)
- Materials Research Society (MRS)
- Society of Plastics Engineers (SPE)

References

- Available upon request.