

# C. James Nesbit IV (CJ)

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## ABOUT

Chemical Engineering student at the University of Dayton with a passion for advancing energy systems and solutions. Skilled in data analysis, computer programming, and software literacy. Proven ability to deliver accurate, high-quality results through effective team collaboration. Actively seeking opportunities to apply technical skills to solve real-world energy and engineering problems.

## EDUCATION

**University of Dayton**, Dayton OH

May 2027

Bachelor of Engineering, Chemical Engineering

GPA: 4.0/4.0

**Sinclair Community College**, Dayton OH

December 2024

Associate of Science, Computer Science

GPA: 3.76/4.0

## RELEVANT COURSEWORK

Excel Engineering Computations

Material & Energy Balances

Chemical Engineering Thermodynamics

General & Organic Chemistry

C++/Java Software Coding

Separation Process Engineering

## WORK EXPERIENCE

**University of Dayton Research Institute**, Dayton OH

August 2025 – present

Fuel Science Intern

- Researched the combined effects of fuel additives and water solubility on dielectric constant measurements used for fuel gauging. Led experiments testing blends of controlled concentrations of additives and water content.
- Analyzed surface tension, interfacial tension, and electrical conductivity data of military jet fuels.

**University of Dayton Research Institute**, Dayton OH

January 2025 – August 2025

Chemical Process Co-op

- Assisted with the development of a mobile petroleum desulfurization unit for the US Air Force.
- Gained hands-on experience with the design and construction of various refining process units relating to the desulfurization and recycle processes. Gained experience reading and developing Process Flow Diagrams, Piping & Instrumentation Diagrams, and Controls drawings.
- Optimized mechanical bill of materials and organized suppliers to save \$11,000.
- Developed the technical data package draft for the unit's design. The technical data package contains information about manufacturing processes, chemical processes, and safety requirements.
- Gained simulation & design experience with process control, ASPEN HYSYS, and Aspen Plus.

**University of Dayton Research Institute**, Dayton OH

October 2024 – May 2025

Fuel Science Intern

- Analyzed gas chromatography (GC-FID, GCxGC) samples for 80+ international jet fuels. Used simulated distillation software to generate over 100 distillation points for each jet fuel. Increased quality and reproducibility of distillation data by up to 30% for new fuels.
- Researched the effects of modern fuel additives on dielectric constant measurements used for fuel gauging. Led 20+ individual experiments with unique fuel & additive combinations to develop models to accurately predict the magnitude of additive effects.
- Collaborated with multiple research professionals to deliver accurate results efficiently.
- Contributed to multiple upcoming research publications (FAA World Fuel Survey) and publications.

## TECHNICAL PROJECTS

**Personal Website**, Dayton OH  
Front-end Website Developer

January 2025 - present

- Designed and created a personal website to act as an expanded online resume and total catalog of my academic progress and achievements. Hosted at [cjnesbit.com](http://cjnesbit.com).

## ADDITIONAL EDUCATION

**Sinclair Community College**, Dayton OH  
Associate of Science, Mathematics  
GPA: 3.76/4.0

December 2024

**Sinclair Community College**, Dayton OH  
Associate of Science, Chemistry  
GPA: 3.76/4.0

July 2024

## HONORS AND AWARDS

**OSGC/NASA 2025 Scholar**

April 2025

Ohio Space Grant Consortium 2025 STEM Scholarship

- Recipient of the NASA & Ohio Space Grant Consortium STEM Scholarship 2025 for my research in the jet fuel industry.

**Dean's List**, University of Dayton  
Dean's List, Fall 2024 & Spring 2025 Semesters

2024 – 2025

- Made the Dean's List at University of Dayton for all semesters studied: Fall 2024, Spring 2025.
- Recognized for having a perfect 4.0/4.0 GPA.

**Dean's List**, Sinclair Community College  
Dean's List, Various Semesters

2022 – 2024

- Made the Dean's List at Sinclair Community College for: Spring 2022, Fall 2022, Spring 2023, Spring 2024, Summer 2024.

## PRESENTATIONS AND PUBLICATIONS

**Stander Symposium Poster Presentation**, Dayton OH  
Stander Symposium, College of Engineering, Independent Research

April 2025

- Presented research regarding fuel gauging in response to dielectric properties of various additives and impurities in jet fuel.
- "Influence of Additives and Impurities on the Dielectric Properties of Jet Fuel" (2025). *Stander Symposium Projects*. 3799.

## PROFESSIONAL INVOLVEMENT

**Omega Chi Epsilon, Chemical Engineering Honor Society**  
Community Outreach Officer

February 2025 – present

- Community Outreach Officer of Omega Chi Epsilon Chemical Engineering Honor Society (OXE). Admittance requires around top ~20% of Chemical Engineering class.

**American Institute of Chemical Engineers**  
Student Member

September 2024 – present

- Joined as a Chemical Engineering student. I participate in meetings and events.

## KEY SKILLS

- Aspen Plus, Aspen HYSYS, Process Modeling, Process Control, Process Engineering
- Software Literacy, C++, Java, HTML, CSS, VBA, Microsoft Office, Adobe Creative Suite
- Communication, Team Collaboration, Project Management, Public Speaking, Problem Solving