

Trenner Jones

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Work Experience

Becton Dickinson (BD), Branchburg, NJ

Nov 2024 – Present

Mechanical Engineer I – Combination Products (Contract)

- Led design verification studies for autoinjectors and multi-dose pens, evaluating essential drug delivery outputs (EDDOs) to evaluate product performance and regulatory compliance for market readiness
- Analyzed mechanical test data and led root cause investigations to resolve performance issues and inform design improvements
- Collaborated with senior engineers to design, prototype, and test custom fixtures to characterize performance of various autoinjectors, pens, and on-body injectors
- Delivered data-driven device performance insights and recommendations to cross-functional teams including engineers, researchers, and non-technical stakeholders, to guide product development decisions
- Conducted performance testing of combination products per client specifications and ISO standards
- Authored comprehensive test protocols, design verification reports, and engineering summaries

AbbVie, North Chicago, IL

June 2023 – Aug 2023

Operations Intern – Global Facilities Engineering

- Calculated air volume ranges, velocity, and pressure for laboratory HVAC system based on exhaust requirements and duct sizing, demonstrating need for a 35% increase in air supply
- Developed construction documents guiding removal of three non-operational air handling units and utilities, freeing 500+ sq. ft. for system upgrades
- Verified and updated HVAC systems drawings to reflect field conditions, converting 12 outdated manual drawings into revised digital formats to be utilized in remodeling and upgrading of laboratories
- Designed and developed detailed construction documents for an HVAC controller testing area, enabling evaluation of control schemes prior to implementation

Pfizer, Sanford, NC

May 2022 – July 2022

Biotech Intern – Equipment Validation

- Revised and field-verified engineering drawings of fermentors, generating 20+ P&ID drawings, reducing equipment requalification time by 15%
- Assisted in re-qualification of autoclaves and fermentors to evaluate performance of equipment
- Compiled and analyzed re-validation data for site-level computer systems in Microsoft Excel, creating a centralized repository to improve efficiency

Skills

CAD: SolidWorks, PTC Creo, Fusion 360, AutoCAD, Autodesk Inventor, Siemens NX

Prototyping & Manufacturing: 3D Printing, Laser Cutting, Lathe, Mill, CNC Machining

Data Analysis: Minitab, Python, MATLAB, Microsoft Excel, LabVIEW, Statistical Analysis

Other: GMP Documentation, Technical Writing, Root Cause Analysis, Project Management, Human Factors

Education

Purdue University, West Lafayette, IN

Aug 2020 – May 2024

B.S. in Mechanical Engineering, Minor in Design & Innovation

Message to the Hiring Manager:

I am writing to express my strong interest in the Design Engineer position at Nemera. As a Mechanical Engineering graduate from Purdue with a minor in Design & Innovation, I am deeply passionate about the drug delivery industry as it is a perfect intersection of mechanical engineering and healthcare where I bring both real-world experience and genuine enthusiasm.

In my current role at BD, I have gained hands-on experience in design verification, analysis, and testing of various drug delivery devices (autoinjectors, pens, pre-filled syringes, on-body injectors, etc.). I am fascinated by the mechanisms inside these devices and the opportunity to design, build, test, and troubleshoot these mechanisms in a deeper, more creative way is exactly what excites me about this position.

My drive to thoroughly understand and solve problems means I bring a relentless curiosity to every challenge. This, along with my highly collaborative nature and meticulous attention to detail, allows me to effectively present complex data and insights to diverse cross-functional teams and external clients. I am eager to participate in your multi-disciplinary innovation sessions, contributing to identifying possible development directions.

Having grown up in Indiana, I am eager to move back to the Midwest and build my career here. I am confident that Nemera's commitment to innovation and growth makes it the ideal place for me to thrive, grow, and make significant contributions as a Design Engineer. I am very excited about this opportunity and look forward to discussing how I can contribute to your team!