

Thomas Sasser

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1033 E Sawmill Rd, Flagstaff, AZ

Experience

Researcher

NAU Climate Solutions Lab, Flagstaff, AZ / Oct 2023 – Present

- Processing minerals to desired size through crushing and sieving.
- Conducting low-intensity carbon mineralization experiments. These experiments involve various processed minerals, and a varying solution composition. Data recording for each experiment, ensuring the integrity and reproducibility results.
- Post processing experiments for fellow researchers to perform thermal and material analysis. These analyses include Differential Scanning Calorimetry (DSC), Thermogravimetric Analysis (TGA), X-ray Diffraction (XRD) and X-ray Fluorescence (XRF). These analytical techniques reveal the carbon sequestration potential of the low-intensity reactions.
- Collaborating with fellow researchers to gain insights into the outcomes of each experiment, aiming to assess the effectiveness of each material with their given solution composition.
- Performing X-ray Diffraction (XRD) analysis and processing XRD, X-ray Fluorescence (XRF), and Thermogravimetric Analysis (TGA) data to determine chemical composition, mineralogical composition, and assess material changes post-experimentation.

Laborer

JC Landscaping, Palmer, AK / June 2023 – Aug 2023

- Install or repair a variety of fences for both commercial and residential clients, working with two-person crews.
- Communicate with clients to guarantee the fence location, style, and quality met their preferences.
- Perform project estimations for clients and supervisors.
- Operate heavy machinery including skid steer and forklift. These were utilized for material handling and fence construction.
- Prepared concrete mixtures, typically composed of aggregates, water, and cement. Specific projects used Polyheed 997 and MasterAir AE 90 additives to enhance durability, strength, and reduce water content.

Extra-curriculars

NAU Rocket Club

- Participated in the 2023 NASA student rocket launch competition.
- I handled the design of both the mechanical structure and electrical layout for the avionics system.
- The electrical layout was tested to ensure a successful deployment of parachutes leading to a successful launch.
- As part of this competition, I was involved in report writing and presentation. The purpose of these were to gain experience and for NASA employees to ensure we have a safe design.

Education

Northern Arizona University

GPA: 3.15

Bachelor of Science (B.S.) Mechanical Engineering (Fall 2025)

Skills

Microsoft

- Proficient in Word, Excel, and PowerPoint.

CAD

- Proficient in SolidWorks from past experience in classes and extra-curriculars.
- Finite Elemental Analysis (FEA)

Mechanical

- Experienced in lathe and mill fabrication.
- Internal Stress Analysis.
- Hands-on materials testing including deflection/bending, stress/strain, and buckling.

Electrical and Software

- Experienced in MATLAB coding through problem solving and simulation.
- Circuit design, soldering, and wiring.

Other Work & Interests

- Laborer / 2018 – 2022
- Tire Technician / Nov 2019 – Mar 2020
- Lube Technician / Feb 2019 – Apr 2019
- Environmental Research