

Expanded Undergraduate Sustainability Research Project Ideas

- Explore the feasibility of implementing geofencing controllers for electric micromobility devices such as scooters and e-bikes on NAU's campus. This project would assess how geofencing could improve safety, regulate usage zones, and support sustainable transportation policies.
- Conduct a comprehensive assessment of bike infrastructure across NAU, including the availability, condition, and accessibility of bike racks and lanes. The study would identify gaps and propose enhancements to encourage more students to commute by bicycle.
- Investigate how incentive programs like prize raffles or cash rewards influence sustainable transportation choices among NAU students. Building on the success of Green Transportation Week, this project would use surveys and behavioral data to evaluate the effectiveness of such initiatives.
- Analyze the impact and equity of Green Fund-supported sustainability projects at NAU. This research would involve mapping project locations, interviewing stakeholders, and recommending strategies to ensure inclusive and equitable access to funding opportunities.
- Develop a business plan for a campus circular economy initiative, such as a supply share or thrift program, aimed at reducing unnecessary purchases. The project would explore logistics, student engagement strategies, and environmental benefits of such a system.
- Evaluate the current recycling practices at NAU and investigate whether recyclable materials are being properly sorted and processed. The study would identify barriers to effective recycling and propose solutions to improve compliance and education.
- Conduct a literature review on the most impactful energy conservation behaviors and strategies applicable to college campuses. The goal is to identify best practices and recommend targeted interventions to reduce energy consumption at NAU.
- Assess the infrastructure gaps for electric bikes and scooters on campus, including charging stations and parking facilities. This project would propose improvements to support safe and sustainable micromobility options.
- Design a data collection system for registering micromobility devices during campus move-in events. The system would support fire mitigation efforts and help track usage patterns of bikes, skateboards, and scooters.
- Perform an inventory of box fans used in campus living areas and evaluate their energy consumption. The study would identify opportunities for energy savings and recommend more efficient cooling solutions.
- Investigate social norms and behaviors related to sustainability among NAU students, such as energy conservation, dietary choices, and civic engagement. The project would use surveys and focus groups to understand motivators and barriers.

- Design and assess the feasibility of solar canopy bike parking structures at NAU. This project would evaluate the potential for renewable energy generation and improved bike infrastructure.
- Collect and analyze data on commuting patterns among NAU students, faculty, and staff. The study would inform transportation planning and promote multimodal commuting options.
- Compare greenhouse gas emissions from NAU's composting program with those from municipal landfill disposal. The research would quantify environmental benefits and support expansion of composting efforts.
- Evaluate the effectiveness of behavioral nudges in campus dining facilities, such as signage and menu design, in promoting sustainable food choices. The project would collaborate with SODEXO to measure changes in behavior and waste reduction.
- Investigate the potential for a campus-wide plastic film recycling program, similar to those at grocery stores. The study would assess the volume of plastic waste generated and explore partnerships for proper recycling.
- Design visual decals and digital signage to reduce recycling contamination from cups and straws. The project would test the effectiveness of these interventions in improving recycling compliance across campus.
- Research water-saving strategies for maintaining healthy lawns at NAU, including efficient sprinkler systems and drought-tolerant grass species. The study would evaluate cost savings and environmental benefits.
- Assess the irrigation needs of campus trees using data from NAU's tree inventory and irrigation mapping. The project would compare methods such as drip irrigation and deep soaking to optimize water use.
- Explore lighting control strategies for NAU buildings, including timers and occupancy sensors integrated with the Building Management System. The research would calculate energy savings and return on investment.
- Develop a cost-effective strategy to reduce NAU's reliance on natural gas, referencing the Campus Heights study. The project would propose scalable solutions for transitioning to cleaner energy sources across campus.