F25.25: Designing an Inclusive Gathering Space for Students with Autism Spectrum Disorder (ASD) in NAU Student Housing

Overview

Autism Spectrum Disorder (ASD) is a neurological condition that affects social interaction, communication, and behavior. On-campus housing poses several challenges for students with ASD, including sensory issues, social isolation, lack of structure, communication barriers, and limited support services. Students on the autism spectrum often experience difficulties with social interaction, which can make them feel uncomfortable in shared spaces with their housemates. While several studies have proposed design guidelines for accommodating the sensory needs of autistic individuals, little attention has been paid to spatial aspects related to social interaction.

Northern Arizona University (NAU) offers several student housing options on campus, aiming to provide a sense of community, security, connection, and convenience. However, NAU's student housing facilities need to cater to the specific needs of neurodivergent students. Many NAU students have disabilities that hinder their learning and socializing on campus, with around fifteen people per month requesting accommodations from disability resources for conditions such as ASD, ADHD, and mental health issues. This figure does not include self-diagnosed students or those who do not seek school accommodations. Therefore, it is essential to design student housing that enhances social interaction and creates a sense of belonging among all students.

This study comprises three parts. The first part involves investigating the existing conditions of NAU's student housing facilities, which was conducted through photo analysis, interviews, resident surveys, and site surveys during the 2023-2024 academic year. The second part will explore the role of physical factors in enhancing social interaction and a sense of community and belonging within one of NAU's student housing facilities, McKay Village, using a virtual reality program. The program will be designed based on the proposed design guidelines for students with ASD, and it will be implemented in a community room at McKay Village as a mock-up space. The final part will involve designing a mock-up space in collaboration with a faculty member and an undergraduate research assistant from the Department of Construction Management at NAU.

The study's findings will contribute to designing student housing that caters to the needs of NAU students with autism and enhances social interaction, creating a sense of belonging. As the college experience involves integrating oneself into a new population and making connections without the assistance of family members, the study's findings will help support the success and well-being of all NAU students.

This request specifically pertains to phases II and III, focusing on exploring the physical factors in student housing and designing a mock-up space. The project will utilize internal NAU resources and external resources to modify a space to enhance social interactions and create a warm sense of belonging.

What the student will DO and LEARN

Student's responsibility:

- Record information acquired from phase I of the research, including the physical environmental

changes
- Develop 3D virtual student housing spaces for experimentation
- Assist in experiments and the design of mock-up spaces
- Organize documentation and basic paperwork for experiments and mock-up space design
- Create construction documents for mock-up space design
- Collaborate with the research team on experiments and the design and construction of mock-up spaces

The objective of learning:

- Gain an advanced understanding of Building Information Modeling (BIM) and Virtual Reality (VR)
- Comprehend the research project and design process for mock-up spaces
- Develop collaboration skills as part of a research team
- Exchange knowledge and skills with peers in design disciplines
- Enhance time management abilities

Additional benefits

This platform will serve as an opportunity for students in design disciplines to learn how to implement a research project in design. Additionally, students will gain hands-on experience in mock-up space design and construction by collaborating with the Department of Construction Management. As an undergraduate student, it is uncommon to observe a research-based design project and actual design and construction taking place at school. Therefore, this platform will provide students with the opportunity to discuss research projects in design disciplines and their implementation.

Additional qualifications

- Demonstrated responsibility and a passion for learning about the design research project
- Experience living in NAU student housing
- Experience working as a Campus Living Community Coordinator (CLCC) in NAU student housing
- Proficiency in Revit or SketchUp (BIM) and Virtual Reality (VR)
- Proficiency in Adobe Creative Suite (Photoshop, Illustrator, and InDesign) and Microsoft Office Suite (PowerPoint, Excel, and Word)
- Ability to generate construction documentation (floor plans, elevations, sections, details, and reflected ceiling plans)
- Strong organizational skills in paper documentation
- Excellent verbal and written communication skills
- FWS-eligible student preferred

Time commitment

10 hrs/week for 30 weeks