

# Exploring the TYR Car: SCAD's Off-Road Electric Vehicle Innovation

[The Savannah College of Art and Design \(SCAD\)](#) continues to push the boundaries of design and engineering through its forward-thinking industrial design program. Among its most remarkable projects is the TYR car, an off-road electric vehicle (EV) crafted with a focus on sustainability and adaptability for a new generation of drivers. Created by SCAD students under the guidance of faculty and industry mentors, the TYR car project represents a harmonious blend of creativity, technological prowess, and innovative manufacturing techniques.

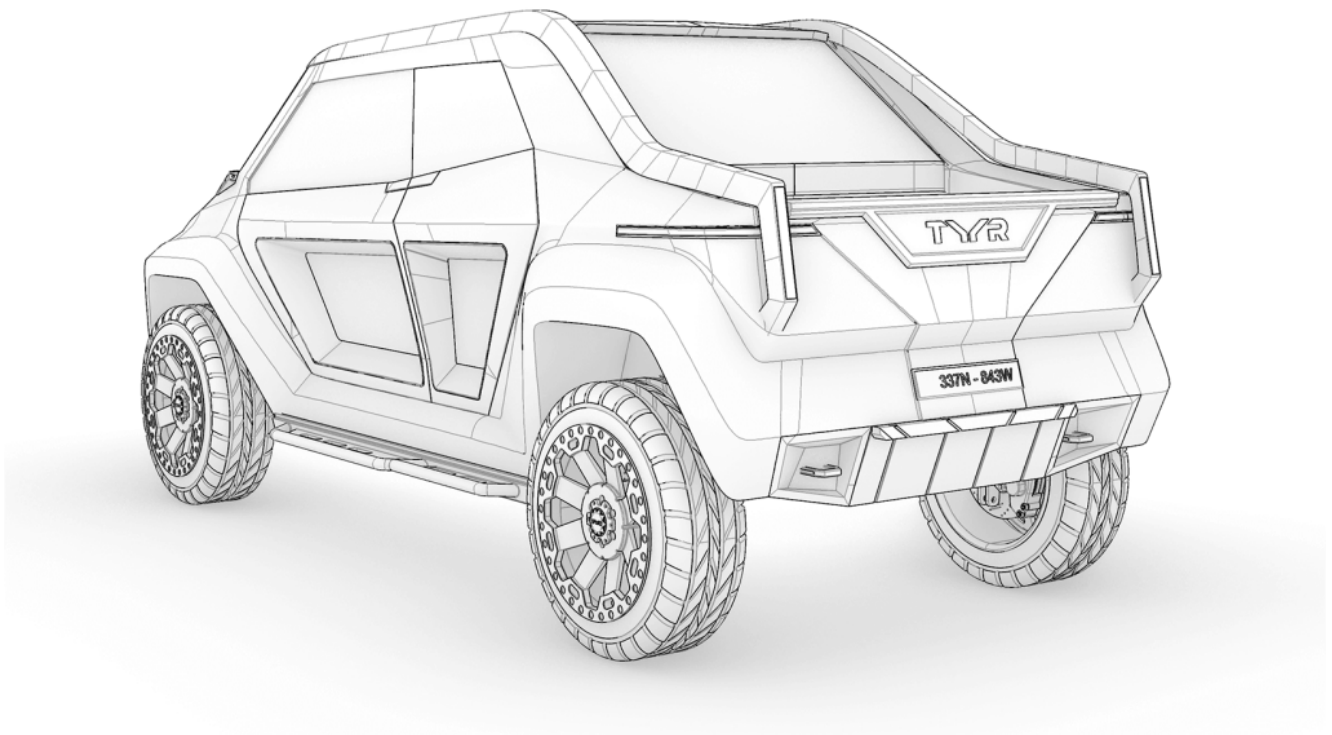


**FROM CONCEPT TO CREATION: IDEATION**

## & DESIGN PHASES

The TYR car project began as a student-led initiative, born out of curiosity and a desire to explore the possibilities of automotive design and manufacturing. The goal was to create a functional off-road EV that resonated with Gen Z's eco-conscious and adventurous lifestyle. To define the direction, the team crafted mood boards and initial sketches, focusing on themes of sustainability, autonomy, and versatility. This phase was marked by unrestrained experimentation and boundary-pushing ideas.

[Rhino](#) became an indispensable tool during the design phase, with [SubD modeling](#) at the core of shaping the car's exterior surfaces. SubD's intuitive interface allowed for the creation and refinement of complex organic shapes, ensuring that the design remained fluid and adaptable throughout the iterative process.



Tools such as [Zebra](#) and [Emap](#) analysis were also leveraged to analyze and enhance surface flow, resulting in better finishes and minimizing post-production adjustments. Complementing digital design, foam mock-ups were created to gain a tangible sense of scale and form, bridging the gap between physical and virtual prototyping.

# PRODUCTION PROCESS: COMBINING TRADITION & INNOVATION

The TYR car's production process combined cutting-edge technology with traditional craftsmanship. The exterior panels were manufactured using CNC-milled fiberglass molds, ensuring precision and durability. Smaller, intricate components like air vents and decorative details were produced via 3D printing, which allowed for rapid prototyping and efficient customization.

Interestingly, the interior components reflected a more hands-on approach. The team employed traditional woodworking techniques to craft a warm and inviting cabin, providing a personal touch that balanced the car's modern, high-tech exterior. This blend of methodologies underscored the importance of versatility and resourcefulness in achieving the project's vision.



# LEVERAGING ADVANCED TOOLS & OVERCOMING CHALLENGES

Beyond Rhino's SubD modeling, the team integrated additional tools and workflows to enhance the project. 3D scanning played a pivotal role, capturing physical prototypes that were imported into Rhino for [NURBS modeling](#).

This approach ensured a higher level of precision, as scanned data served as a reference for creating accurate surfaces that aligned with the initial design intent. Transitioning seamlessly between physical and digital environments was critical in maintaining consistency and reducing errors.

However, the project was not without its challenges. One major hurdle involved aligning data from multiple sources, particularly when transitioning between 3D scans and physical prototypes. Discrepancies between the scanned data and initial designs required meticulous adjustments, forcing the team to adopt a more structured approach to problem-solving. Breaking the project into manageable milestones—such as completing the exterior surfaces before tackling detailed interior elements—helped maintain focus and momentum.



# A COLLABORATIVE EFFORT ACROSS DISCIPLINES

The TYR car's success was a testament to SCAD's interdisciplinary approach. Students from various fields, including industrial design, interior design, and graphic design, contributed their expertise to the project. This collaborative environment enriched the design process and prepared students for real-world professional challenges.

Key SCAD students, including Nazan Mehal, Daisy Cao, Atticus Kiger, Augustya Sharma, Brett Meggersee, Vaidehi Cheedella, George Saxon, and Chloe Jung, worked under the mentorship of Professor Owen Foster and SCAD mentor Yash Sharma to bring the TYR car to life.

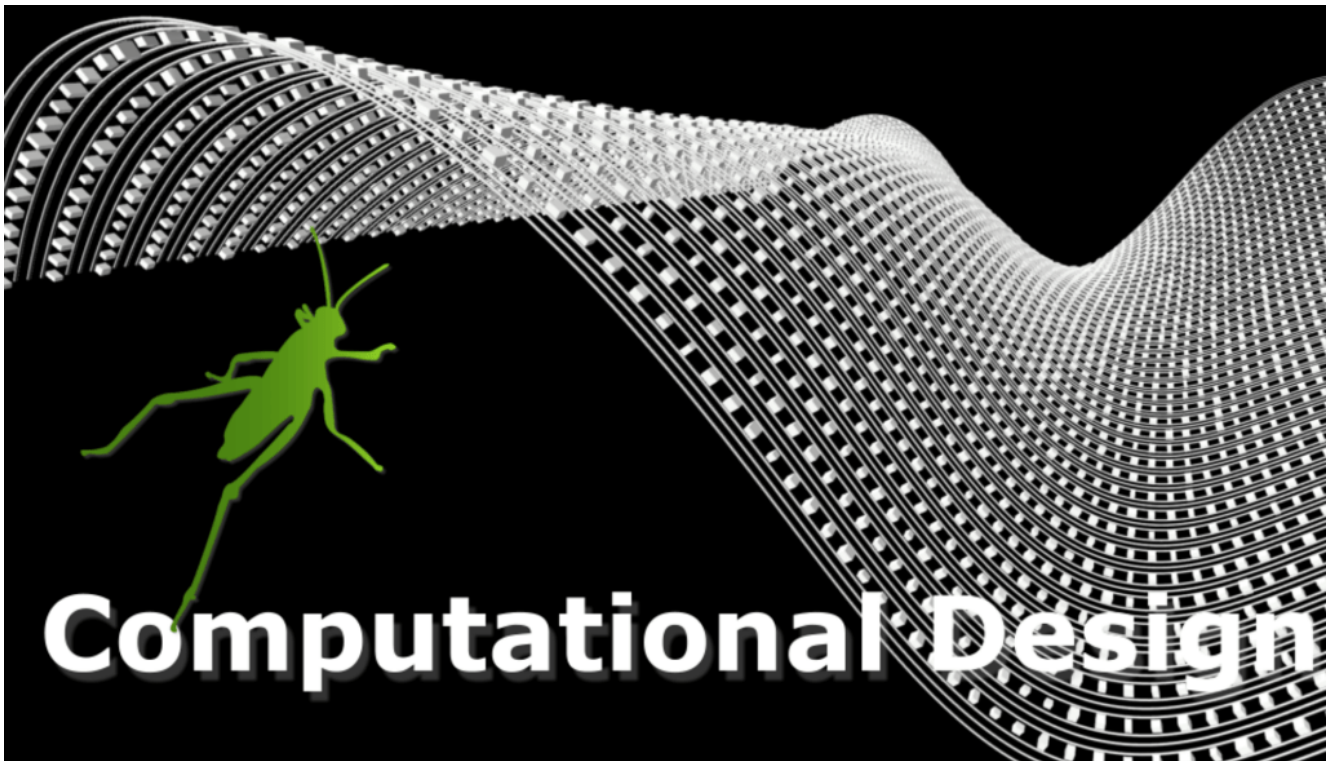


## AN OFF-ROAD EV FOR THE FUTURE

Designed with sustainability and adaptability in mind, the TYR car is more than a vehicle; it's a platform that evolves with the user. Featuring sustainable interior materials, adjustable seating, a large acrylic display, and a small truck bed, the car offers a smooth transition from urban streets to rugged off-road terrain. These

features align with Gen Z's priorities of fuel efficiency, environmental impact, and technological innovation.

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[See Also](#)

[COMPUTATIONAL DESIGN WITH GRASSHOPPER](#)

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The TYR car is a shining example of what can be achieved when creativity meets cutting-edge tools like Rhino and [Grasshopper](#). Through experimentation, problem-solving, and teamwork, the SCAD team demonstrated the power of design education in shaping the future of mobility. This project not only redefines the driving experience for a new generation but also sets a benchmark for sustainable automotive design.

## CREDITS

### Students

Nazan Mehal

Daisy Cao

Atticus Kiger

Augustya Sharma  
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George Saxon  
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