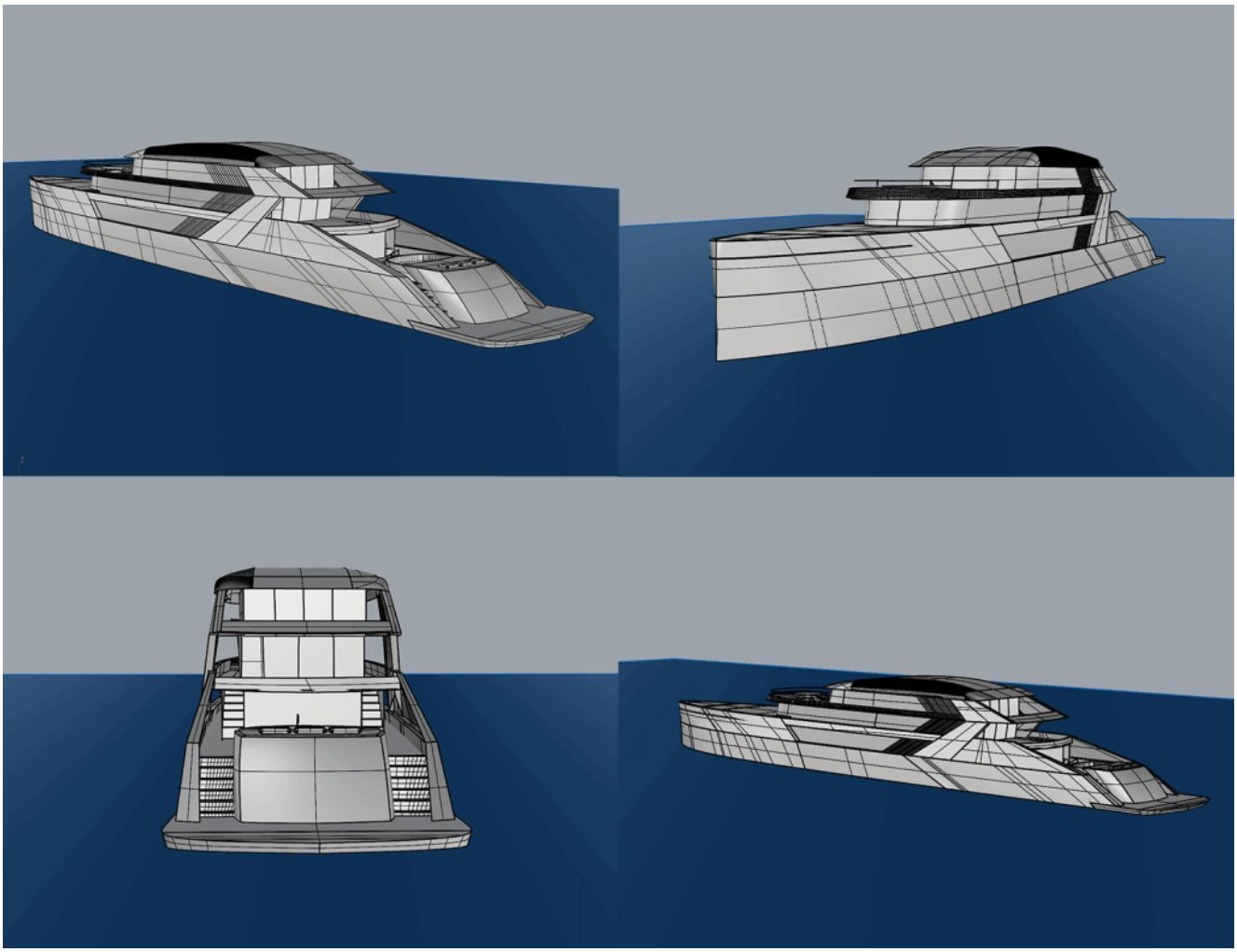
Designing Adventure at Sea: A Student's 100-Meter Luxury Superyacht

For her senior capstone at the Savannah College of Art and Design, Interior Design major and Marine Design minor Holladay Crook set out to create a vessel that would embody both daring form and refined comfort. The result was a 100-meter (328-foot) luxury superyacht concept designed for travelers seeking adventure and elegance at sea.

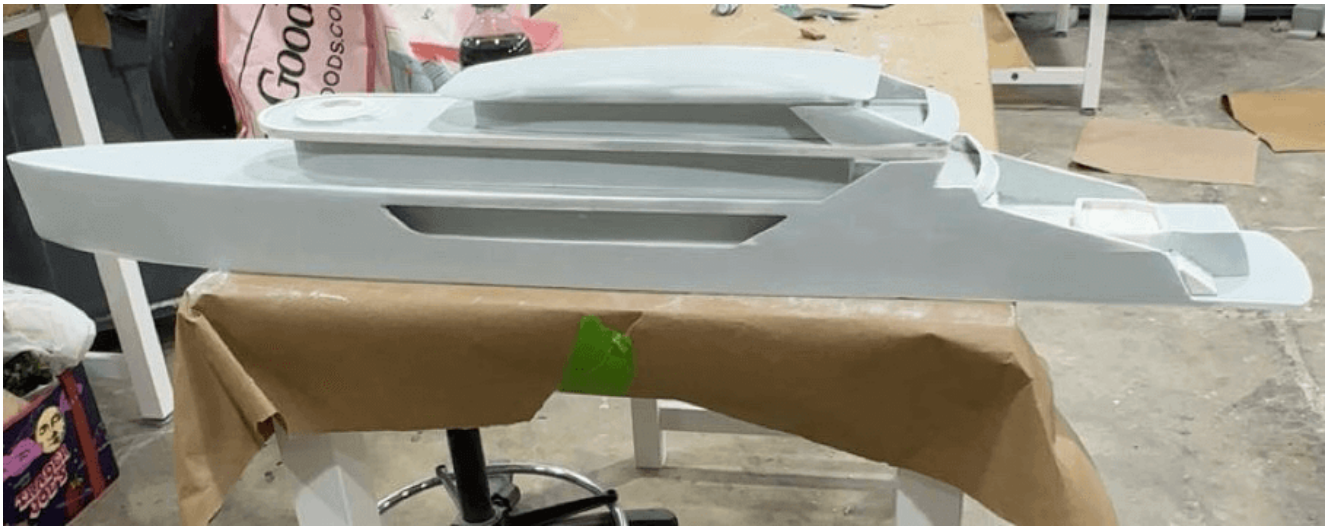


Holladay's workflow included Rhino CAD modeling.

The 20-week project, part of SCAD's *Marine Design Studio I and II: Developing the Next Watercraft Experience*, challenged students to design a vessel of their chosen size and type, considering propulsion systems, technology, intended users, and operating environments. From hand sketches to final presentation, Holladay's workflow included

Rhino CAD modeling, renderings, and the production of a 1-meter-long 3D-printed prototype.

While the brief called for a mega yacht, Holladay imagined a fictional couple to anchor every design decision: a bold, avant-garde art collector and her tech-savvy, efficiency-minded husband. This narrative approach informed the yacht's sculptural exterior, contrasting interior materials, and meticulously planned spatial arrangements.



Each PLA-printed piece was hand-assembled, glued, and sanded, from coarse 80-grit down to 1500 for a refined finish

After researching layouts from existing yachts of similar scale, Holladay began developing the design in Rhino. She modeled both the exterior and interior over 16 weeks, relying on Rhino's precision tools to handle complex curves and surfaces.

Commands such as Curve, EdgeSrf, Rail Sweep, LoftSrf, BlendSrf, and ExtendSrf were essential, along with extensive adjustments to control points and Boolean operations. Rhino's layer and grouping features helped manage the vessel's many components and organize the model for fabrication.

Holladay Crook and her final capstone poster

To prepare the prototype for printing, Holladay divided the yacht into 30 components, guided by considerations of assembly and painting efficiency, as well as printing constraints. A custom joinery system

was designed directly in Rhino using cube and pyramid solids combined with Boolean operations, ensuring the pieces could be accurately aligned during assembly.

See Also

SUBD IN RHINO 7 & 8

The fabrication process required patience and precision. Each PLA-printed piece was hand-assembled, glued, and sanded, from coarse 80-grit down to 1500 for a refined finish, before receiving Bondo treatment to perfect the surfaces. After priming, painter Jakob Craig-Mellen applied the final color palette, bringing the model to life.

After priming, painter Jakob Craig-Mellen applied the final color palette, bringing the model to life

The project was not without setbacks. File corruption and open polysurfaces demanded urgent troubleshooting, including a complete

remodel just 24 hours before the 3D print deadline. Holladay credits careful attention to curve closure, early joining of surfaces, and frequent use of the Naked Edges tool as lessons learned. She also discovered the importance of working in smaller files to prevent technical issues with large datasets.

After priming, painter Jakob Craig-Mellen applied the final color palette, bringing the model to life

For visual presentation, she combined Keyshot for material and lighting, Vizcom for dynamic AI-assisted scene rendering, and Adobe Photoshop for final compositing, iterating across platforms to achieve the desired tone and context.

Reflecting on the experience, Holladay says the project expanded her technical skills, deepened her understanding of fabrication, and demonstrated the power of designing for human stories, even fictional ones. “It taught me the importance of precision, patience, and collaboration,” she notes. “I walk away with advanced Rhino skills, new confidence in bringing complex ideas into reality, and a final piece I’m proud of.”

Holladay’s 100-meter luxury superyacht concept

CREDITS

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3D Print Sponsored By: SCAD