

How an Ocean of Curiosity Led BCIT Geomatics Student to Pursue a Career as a Hydrographic Surveyor



A reflective gaze toward the open sea might be how some of us ponder one of life's riddles or dream away a warm holiday afternoon. However, for a creative Vancouver Island student enrolled in the [BCIT Geomatics Engineering Technology](#) diploma programme, a curious glance across the waves is often to imagine what topographic mysteries lie below.

Sian Cornwell loves the ocean and has a passion for topography. One of her favourite pastimes in high school was to convert topographic maps into 3D wooden terrain models. "It was art with real topographic maps," she said. "I started to really enjoy it." Using the school's computer guided laser cutter, she found that she could trace the map's contour lines onto a slab of wood. Each contour represents a constant elevation on the map and then each section could be sliced out and set to its scaled height above sea level, creating the 3D model.

Beneath the Surface

Living along the coast, she soon began focusing her imagination offshore. "I had wondered what was beneath the surface," she said. "That's what turned my interest to nautical charts and how that information was gathered." Using the same techniques, she began converting the sea floor into 3D models, her favourite being an underwater landscape adjacent to where she grew up.

Her bond with the sea began early, as she spent much of her childhood patrolling the beaches and shoreline, exploring tide pools and watching the waves. "It impacted every aspect of my life," she said. "The town of Ucluelet revolves around the ocean. The tourism, fisheries, the First Nation communities all depend on it."



The stunning west coast of the Pacific Ocean near Ucluelet, Vancouver Island.

Specialized Technology

Sian began looking into post-secondary mapping related courses and discovered the [Geomatics programme](#) at British Columbia Institute of Technology (BCIT). After watching an online info session, she said she applied the same evening. "I wanted to learn all types of surveying," she said, "but I am specifically interested in topography."

She said she is hopeful that the background gained at BCIT might one day lead to work as a hydrographic surveyor. Her aspirations may have gotten a boost in February when she was selected as part of a BCIT student delegation to attend this year's [Canadian Hydrographic Conference](#) in Quebec. She said it was a great opportunity to learn about the specialized technology and the logistics involved in planning a hydrographic surveying project – a big step from creating 3D wooden landscapes from existing charts. "It would be really cool to learn how to use the equipment and what it takes to produce an entire map," she said.

Our students' education is our priority and we will continue to deliver the applied instruction, collaborative experience, and industry connections that students can expect from a BCIT credential. We are developing remote and in-person solutions specific to the unique needs of programmes and are taking all measures to ensure the safety and well-being of our students, faculty and staff.

Special thanks to Grant Shelest, programme head of Geomatics for sharing this inspiring student story and featured photo.

