

UBC School of Engineering | Capstone Project Showcase & Competition
KF Centre for Excellence, 5800 Lapointe Dr., Kelowna, BC



THE UNIVERSITY OF BRITISH COLUMBIA
School of Engineering
Faculty of Applied Science
Okanagan Campus

THEME	PROJECT	LOCATION	TITLE	SPONSOR
Automation and Robotics	A	2nd floor	Remote-Controlled Rail Vehicle for Automated Railway Crossing Testing and Speed Monitoring	Student
Automation and Robotics	B	2nd floor	Apple Grade Classification	JA Orchard LTD
Automation and Robotics	C	2nd floor	AI 4 Coral	Student
Automation and Robotics	D	2nd floor	Development and Implementation of an Egg Vending Unit for a Free-Range Egg Production and Processing Unit in Salmon Arm, BC	Faculty - Sajid Hameed P.Ag
Automation and Robotics	E	2nd floor	Automated Apple Sorter	JA Orchard LTD
Automation and Robotics	F	2nd floor	Hydraulic Test Bench	Janox
Automation and Robotics	G	2nd floor	Digital Hi-Low gauge	Laturnus Welding Ltd
Automation and Robotics	H	2nd floor	Autonomous Swarm Robotics for Comprehensive Aquatic Ecosystem Assessment	Student
Automation and Robotics	I	2nd floor	Codling Moth Egg Counting	OKSIR
Automation and Robotics	J	2nd floor	Room Occupancy Detection Using Ultrasound	tekmar Control Systems
Automation and Robotics	K	2nd floor	Pickle Ball Throwing Machine	Faculty - Ian Foulds
Design	A	1st floor - N. Hangar	3-Dimensional MATLAB Simscape Vehicle Model for EV Formula SAE Race Car	Student
Design	B	1st floor - N. Hangar	Subterranean Lunar expandable conformal habitat	
Design	C	1st floor - N. Hangar	Argus Design	Kal Tire MTG Innovation Center
Design	D	1st floor - N. Hangar	Development of a Wearable Hand Tremor Monitoring Device for Parkinson's Disease	Summit Innovation LTD.
Design	E	1st floor - N. Hangar	Optimization of Sterile Moth ATV-mounted release device	Okanagan Kootenay Sterile Insect Release (SIR)
Design	F	1st floor - N. Hangar	New CBR600RR Cylinder Head Design for FSAE Use	Student
Design	G	1st floor - N. Hangar	Targeting and Tracking System for Stratospheric Laser Links	Faculty - Jonathan Holzman
Design	H	1st floor - N. Hangar	Torque Tool Safety Switch	Kal Tire MTG Innovation Center
Design	I	1st floor - N. Hangar	Small Scale Plume Emitter	ChampionX
Design	J	1st floor - N. Hangar	Thin Ice Detection on Power Cables: Ensuring Safety and Sustainability for Society	Faculty - Mohammad Zarifi
Design	K	1st floor - N. Hangar	Design of a position control motor for rotary stem valves	Vitalis
Energy Systems	A	1st floor - N. Hangar	RFI Cell Buster	National Research Council Canada
Energy Systems	B	1st floor - N. Hangar	Air-conditioned electric motorcycle: automatic tilt-unlocking and manual tilt adjustment	Faculty - Ernest Goh
Energy Systems	C	1st floor - N. Hangar	Pressure Testable Atmospheric Chamber	KX Oil Tools
Energy Systems	D	1st floor - N. Hangar	Solar parking lots and heat battery systems combined	UBC Okanagan
Energy Systems	E	1st floor - N. Hangar	Accelerated Lifetime Testing of Perovskite Solar Cells	Student
Energy Systems	F	1st floor - N. Hangar	Pulse Generator	Limitless Potential Technologies INC
Energy Systems	G	1st floor - N. Hangar	Novel Regenerative Heat Exchanger	Student
Energy Systems	H	1st floor - N. Hangar	Innovative design of cooling station for citizens seeking relief from rising temperatures	Makr Group
Energy Systems	I	1st floor - N. Hangar	Liquid Air - Compressed Air - Hydraulic Transportation Power System	Antrobus Consulting Ltd
Energy Systems	J	1st floor - N. Hangar	EIC AI Equipment Selector	Solaris MCI
Energy Systems	K	1st floor - N. Hangar	Thermal Modelling of Radiant Snow Melt Slab	tekmar Control Systems
Infrastructure and Structures	A	2nd floor	Developing Thermal-Controlled Formwork for Winter Concrete Pours	Traine Construction & Development
Infrastructure and Structures	B	2nd floor	Topology Optimization and Structural Design of Stadium Roof	Altair Canada
Infrastructure and Structures	C	2nd floor	New West Kelowna Water System	D.E. Pilling & Associates Ltd.
Infrastructure and Structures	D	2nd floor	A novel three-dimensional base isolation system to suppress wide-bandwidth vibrations in building structures	Faculty - Saqib Khan
Infrastructure and Structures	E	2nd floor	NW30-19-2-W2_Industrial Land Development_2024	Pillar Systems
Infrastructure and Structures	F	2nd floor	Okanagan College's sustainable and low-cost mobile student housing at 1650 KLO Ave. in Kelowna	Faculty - Ray Taheri
Infrastructure and Structures	G	2nd floor	Standardized Method for Selecting Construction & Flooring Adhesives to Reduce Construction Failures & Boost Efficiency	AC Moulding & Millwork
Infrastructure and Structures	H	2nd floor	Big White Wastewater Treatment Plant Improvements	Big White Wastewater Utility Ltd.
Infrastructure and Structures	I	2nd floor	Comparative analysis of structural seismic retrofits of concrete buildings using viscous dampers and conventional methods: Carbon, cost, and constructability	Student
Infrastructure and Structures	J	2nd floor	Analysis and Design of a Mass Timber Bridge using S-FRAME Software Product Suite	Altair Engineering
Infrastructure and Structures	K	2nd floor	Rebuilding resilient, smarter infrastructure grids in Ukraine	Faculty - Ben Haeusler
Sustainability	A	2nd floor	Recycling of HDPE into ballistic panels for personnel protection	Level 7 Plastics
Sustainability	B	2nd floor	Recycling Gypsum into Topsoil Amendments	TwinCon Enterprises Ltd.
Sustainability	C	2nd floor	HempWood - The new alternative for home structures	HempWorks
Sustainability	D	2nd floor	Detection of Zebra or Quagga mussels on watercraft	Okanagan Basin Water Board
Sustainability	E	2nd floor	Phytoremediation for Mines in British Columbia	Student
Sustainability	F	2nd floor	Modular Plumbing for Next Gen ProCab	Hexagon Agility
Sustainability	G	2nd floor	Turning Garbage to Gold - Waste Valorization	UBC Okanagan
Sustainability	H	2nd floor	Solar Forge - Decarbonization of melting/recycling metal and glass	Central valley glass
Sustainability	I	2nd floor	Decarbonization Roadmap for Brewery Sustainability at Okanagan Spring Brewery	Sleeman Breweries Ltd.
Sustainability	J	2nd floor	Plastic Pallet Vs. Wood Pallet LCA	REHRIG PACIFIC COMPANY
Sustainability	K	2nd floor	Nano-modified Wood-Ash based Cementitious Composites Strengthened with Sustainable Fibres	Faculty - Meraj Rubayat Kamal

Individual Project: “Bell 429 HEC Longline” STC by Murray Forbes for *Sebrof Aviation Services Ltd* | 1st floor N. Hangar