



# **WEEF ALLOCATIONS**

## **W2022**

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**Academic Equipment & Resources**

Item	Option 1	Option 2	Option 3	Option 4	Final		
Total cost per car = \$3,500. 3 * \$3500 = \$10,500	10500	0	0	0	10,500.00	Proposal	237
						<b>Ideas Clinic - Electric Vehicles</b>	
					10,500.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Mechanical components for machine \$250 each x 25 devices	6250	0	0	0	6,250.00	Proposal	238
						<b>Ideas Clinic - Materials testing</b>	
					6,250.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Redox Flow Battery Test Fixture	6066.00	6066.00	6066.00	6066.00	6,066.00	Proposal	239
Two Peristaltic Pumps	12297.00	12297.00	6148.00		12,297.00	<b>A Redox Flow Battery Unit for Undergraduate Teaching Lab</b>	
Temperature Sensors	850.00				850.00		
Membrane	220.00				220.00		
					19,433.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Thermal Imaging Camera: UNI-T UNI690B	630.25	630.25	630.25	630.25	630.25	Proposal	247
						<b>Thermal Imaging Camera</b>	
					630.25		

Item	Option 1	Option 2	Option 3	Option 4	Final		
High capacity (6.2 kg, 10 mg) balance for Bioprocessing Lab (DWE 1520)	2843.71	2843.71	2843.71	2843.71	2,843.71	Proposal	253
Analytical balance for Bioprocessing Lab (600g, 1 mg) (DWE 1520)	0	1755.30	1755.30	1755.30	1,755.30		

Analytical balances for UG Lab (320g, 1 mg) \$1169.23 each (DWE 1518)	0	0	2338.00	2338.00	2,338.00	<b>Balances for Chemical Engineering Undergraduate Labs</b>
Precision balance for distillation column (DWE 1518)	0	0	0	1095.87	1,095.87	
					8,032.88	

Item	Option 1	Option 2	Option 3	Option 4	Final		
Microscopes (with digital cameras/views creens \$3K- 6K ea or traditional style \$800-\$2K ea, price depends on resolution)	7000	5000	3000	2000	7,000.00	Proposal	254
						<b>Microscopes for ChE UG Labs</b>	
					7,000.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
TurtleBot3	16400	12300	8200	5740	16,400.00	Proposal	255
Estimated shipping costs	200	200	200	200	200.00	<b>New educational mobile robots TurtleBot3</b>	
					16,600.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Tennsmith 36" 16ga foot shear	4100	0	0	0	4,100.00	Proposal	256
4' 16ga box and pan brake	3400	0	0	0	3,400.00	<b>Tools for engineering student shops</b>	
					7,500.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
DEWALT 20V 6 Tool Combo Kit	1500.00	0	0	0	1,500.00	Proposal	259
DEWALT 20V Cordless Framing Nailer Kit	875.00	0	0	0	875.00	<b>Design+Build Equipment</b>	
DEWALT DCK300P1 20V 3-Tool Woodworking Kit	740.00	0	0	0	740.00		
0							
					3,115.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
45,000, divided into equal allocations over 1, 2 or 3 years	15000	7500	5000	5000	22,500.00	Proposal	248
					Pending Final Approval	Pickup Truck for Student Team Use	
					22,500.00		

**Student Teams**

Item	Option 1	Option 2	Option 3	Option 4	Final		
Mechanical Components	1550	1550	1550	1550	1,550.00	Proposal	240
Electrical Components	350	350	350	150	350.00		
Tractive Components	1760	1160	660	660	1,760.00	<b>Winter 2022 - Waterloo Formula Electric Funds Proposal</b>	
Composites	600	300	300	0	600.00		
					4,260.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Mechanical Tooling and Storage	3500	3000	2500	1250	2,500.00	Proposal	241
Firmware Dev Equipment	1500	1200	1000	800	1,000.00		
Flight Test Equipment	800	700	800	300	800.00	<b>WEEF Winter 22 WARG Proposal</b>	
EE PCB Components	4000	3000	2000	1000	2,000.00		
CV System Equipment	3500	3000	2000	1000	2,000.00		
					8,300.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Machine Shop Funding	3000	3000	3000	3000	3,000.00	Proposal	242
Pneumatics, Powertrain & Electrical Components	1500	1000	1000	0	1,500.00		
Resins and Composites	2500	2000	500	500	2,500.00	<b>UWFM Winter 2022 Funding Proposal</b>	
Spare engine/components	2500	2500	2500	2500	2,500.00		
					9,500.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
VR Headset and controllers	2089.37	1490.47	1070.11	1070.11	1,070.11	Proposal	246
Development Laptop	3388.87	3276.99	3276.99		1,500.00		
					For Desktop Only	<b>WATOLINK VR + BCI Development</b>	
					2,570.11		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Regenerative Power Supply, Model RP7963A, computer controlled variable output high voltage power supply	13848	13848	13848	13848	13,848.00	Proposal	249

Software license: BenchVue Advanced Power Control and Analysis - single instrument connection. Perpetual transportable						<b>SSDC High-Voltage Test Room Proposal</b>
					13,848.00	

Item	Option 1	Option 2	Option 3	Option 4	Final		
Cut-resistant gloves	300	300	300	300	300.00	Proposal	250
Laminator	100	100	100	100	100.00	<b>Concrete Design Team - W22 WEEF</b>	
Dehumidifier & Environmental Sensor	0	300	300	300	300.00		
Compressed air spool	0	0	300	300	300.00		
Patch Embroidery Machine	0	0	0	1500			
					1,000.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Electrical Components/Tools	2400	1850	1350	1350	1,850.00	Proposal	251
Mechanical Components/Tools	5750	4250	3500	3000	4,250.00	<b>UWaterloo Robotics Team W2022 WEEF Proposal</b>	
Software Components/Tools	1500	1250	1250	1000	1,250.00		
Firmware Components/Tools	1500	1250	1000	1000	1,250.00		
					8,600.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Pelican Transport Case	450	400	250	150	400.00	Proposal	252
Electrical Power Systems (EPS) Components	1365	1050	840	630	1,050.00	<b>UW Orbital - Canadian Satellite Design Challenge (CSDC)</b>	
Command and Data Handling (CDH) Components	2470	1900	1520	1140	1,900.00		
Attitude Determination and Control Systems (ADCS) Components	438.75	337.50	270	202.50	337.50		
Optics and Camera	793	610	488	366	610.00		
					4,297.50		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Battery Cells that will make up the battery pack - the main source of power of the solar vehicle.	5000	5000	5000	5000	5,000.00	Proposal	258
						WEEF W22 Funding Proposal	
					5,000.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Plumbing/Propulsion	8500	7250	6000	4000	7,250.00	Proposal	260
Media	500	400	300	100	400.00	Waterloo Rocketry Winter 2022 WEEF Proposal	
Recovery	750	600	450	300	600.00		
Safety	1500	1200	1000	800	1,200.00		
Avionics	2000	1750	1500	1000	1,750.00		
					11,200.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
20x Lab Coats (University Print)	499.80	0	0	0	0.00	Proposal	261
1x 4-Pack Set of Eppendorf Pipettes (Fisher Scientific)	1556.00				1,556.00	Waterloo iGEM Funding Request for Equipment and Reagents	
1x Protein Electrophoresis Cell (Bio-Rad)	1490.00	979.00	747.00		1,490.00		
1x Vortex Mixer (Fisher Scientific)	546.70	350.73			546.70		
1x 500 Units of Taq Polymerase (ThermoFisher)	186.00				0.00		
					3,592.70		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Compute and Research Hardware	14674	11006	7337	3669	3,269.00	Proposal	262
Mobile Platform	8391	6293	4196	2098	2,098.00	W22 WATonomous WEEF Proposal	
					5,367.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Hot air station	1269.64	1923.75	0	0	1,269.64	Proposal	263
Thermal Camera	4105	2704	930		2,704.00	SSDC WEEF Proposal W22	
					3,973.64		

Item	Option 1	Option 2	Option 3	Option 4	Final		
guidance: pneumatics, springs, air cylinders	1200	1000	900	800	1,200.00	Proposal	264
thermals: cooling fans, heat flux sensors	500	300	200	100	500.00	<b>Waterloop WEEF Proposal W22</b>	
battery: gropow battery cells, power distribution unit parts	2000	1800	1700	1300	2,000.00		
testing magnetic field (gauss), raw materials (electrical steel for motor core, copper for coils)	3200	2800	2300	2000	3,200.00		
Motor Controller (transformers, HV parts, boards, IGBTs) + WE HAVE MORE ITEMS, WE'LL TALK ABOUT IT IN OUR PRESENTATION !	1000	800	500	300	1,000.00		
					7,900.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Pneumatics	500	400	350	300	500.00	Proposal	265
Robot Belts/ Chains	375	350	300	250	375.00	<b>VEX U Robotics 2022 Winter</b>	
					875.00		



**Misc Allocations**

Item	Option 1	Option 2	Option 3	Option 4	Final		
Chairs (up to 4 at \$500 each)	2000	1500	1000	500	2,000.00	Proposal	243
Table - similar to wooden, 48" diameter table in Waterloo	700				700.00	<b>Furniture for Elder's Space - Cambridge</b>	
Wooden bench/seat (based on estimates from E7 benches)	2000				2,000.00		
Art/Prints (such as Robert Griffing, Haudenosaunee artist - <a href="https://www.lordnelsons.com/gallery/frontier/griffing">https://www.lordnelsons.com/gallery/frontier/griffing</a> )	500	1000	2000				
					4,700.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Signage (x7) + installation	6000	4000	2000	1000	6,000.00	Proposal	244
						<b>Indigenous Signage in Engineering Buildings</b>	
					6,000.00		

Item	Option 1	Option 2	Option 3	Option 4	Final		
Billiards Table (4 different models)	1439	2329	1348	650	1,348.00	Proposal	245
Supplemental Cues and Backup Supplies	104	0			0.00	<b>E7 Pool Table</b>	
					1,348.00		

	<b>ALLOCATED</b>						
<b>TOTAL</b>	12048						

**Reallocation**

Item	Option 1	Option 2	Option 3	Option 4	Final		
Server Upgrades - 1x 1300W PSU	360	270	180	90	360.00	Proposal	257
Networking Upgrades (1) - 20x SFP DAC Cables	640	480	320	160	640.00		

Networking Upgrades (2) - 5x 2x10G SFP+ Network Adapter	1480	1110	740	370	1,480.00	<b>F20 &amp; W21 WATonomous WEEF Reallocation Proposal</b>
					2,480.00	

Proposal Number	Proposal Title	Requested	Allocated
237	Ideas Clinic - Electric Vehicles	\$10,500.00	10500
238	Ideas Clinic - Materials testing	\$6,250.00	6250
239	A Redox Flow Battery Unit for Undergraduate Teaching Lab	\$19,433.00	19433
247	Thermal Imaging Camera	\$630.25	630.25
248	Pickup Truck for Student Team Use	\$15,000.00	17668.05
253	Balances for Chemical Engineering Undergraduate Labs	\$8,032.88	8032.88
254	Microscopes for ChE UG Labs	\$7,000.00	7000
255	New educational mobile robots TurtleBot3	\$16,600.00	16600
256	Tools for engineering student shops	\$7,500.00	7500
259	Design+Build Equipment	\$3,115.00	3115
		\$ 94,061.13	96729.18
			Allocated
243	Furniture for Elder's Space - Cambridge	\$5,200.00	4700
244	Indigenous Signage in Engineering Buildings	\$6,000.00	6000
245	E7 Pool Table	\$2,329.00	1348
		\$ 13,529.00	12048
			Allocated
240	Winter 2022 - Waterloo Formula Electric Funds Proposal	\$4,260.00	4260
241	WEEF Winter 22 WARG Proposal	\$13,300.00	0
242	UWFM Winter 2022 Funding Proposal	\$9,500.00	9500
246	WATOLINK VR + BCI Development	\$5,478.24	0
249	SSDC High-Voltage Test Room Proposal	\$13,848.00	13848
250	Concrete Design Team - W22 WEEF	\$2,500.00	1000
251	UWaterloo Robotics Team W2022 WEEF Proposal	\$11,150.00	8600
252	UW Orbital - Canadian Satellite Design Challenge (CSDC)	\$5,516.75	4297.5
258	WEEF W22 Funding Proposal	\$5,000.00	5000
260	Waterloo Rocketry Winter 2022 WEEF Proposal	\$13,250.00	11200
261	Waterloo iGEM Funding Request for Equipment and Reagents	\$4,278.50	3592.7
262	W22 WATonomous WEEF Proposal	\$23,065.00	0
263	SSDC WEEF Proposal W22	\$5,374.64	3973.64
264	Waterloop WEEF Proposal W22	\$7,900.00	7900
265	VEX U Robotics 2022 Winter	\$875.00	875
		\$125,296.13	74046.84
		\$232,886.26	182824.02

	Total	AE&R + Misc.	Student Teams
Requested	\$ 232,886.26	\$ 107,590.13	\$74,046.84
Allocated	\$ 182,824.02	60%	40%
	<b>Faculty &amp; Misc.</b>		<b>Student Teams</b>
	<b>\$108,777.18</b>		<b>\$74,046.84</b>