



## Summary

This document is written to help estimate the amount of money needed to purchase/upgrade laptops and desktops of various brands that Civil and Environmental Engineering IT supports. The laptops and workstations listed here are meant to be common devices that instructors buy to teach or a research computer for their graduate students.

If you cannot find the devices you are looking for, please contact us at [civrt@uwaterloo.ca](mailto:civrt@uwaterloo.ca) and we can give you an estimate.

Prices listed are taken from the respective brands' website and averaged out to give close estimate to what the prices listed on the actual website is. Prices can vary for more than +\$1000 depending on more detailed specifications chosen and cannot account for current promotional prices that the brands offer.

Laptop and desktop lists are estimate for business line and workstation grade devices meaning the prices will be higher than what you will see on big box stores. Please visit [Lenovo Workstation vs. Laptop](#) and [Business vs. Consumer Laptop](#).

Once you have an idea of what laptop or desktop you would like to purchase, please email us at [civrt@uwaterloo.ca](mailto:civrt@uwaterloo.ca) with your budget and specs and we will be able give you a more detailed spec explanation and pricing. We will be able to advise you on spec upgrades, accessory add-ons and recommended warranty.



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### Lenovo Laptop Estimated Pricing

P Series 14" Screen Size Laptops								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i5 or Ryzen 5	~\$1,400 CAD	i7 or Ryzen 7	+\$300	-	-	-	-	\$1,400 to \$3,900 CAD before tax
Windows 10 Pro		-	-	-	-	-	-	
Integrated Graphics		Dedicated Graphics 4GB	+\$200	-	-	-	-	
8GB RAM		16GB	+\$200	32GB	+\$400	64GB	+\$800	
256GB SSD		512	+\$220	1TB	+\$600	2TB+	+\$1,000	

P Series 15" Screen Size Laptops								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i5 or Ryzen 5	~\$1,600 CAD	i7 or Ryzen 7	+\$200	i9	+\$900	-	-	\$1,600 to \$8,200 CAD before tax  If you choose an 8GB + dedicated graphics card, you can ignore RAM and SSD upgrade prices
Windows 10 Pro		-	-	-	-	-	-	
Dedicated Graphics 4GB		Dedicated Graphics 6GB	+\$1,000	Dedicated Graphics 8GB	+\$1,700	Dedicated Graphics 16GB	+\$3,700	
8GB RAM		16GB	+\$200	32GB	+\$450	64GB	+\$900	
256GB SSD		512	+\$200	1TB	+\$500	2TB+	+\$900	

P Series 17" Screen Size Laptops								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i5 or Ryzen 5	~\$2,000 CAD	i7 or Ryzen 7	+\$200	i9	+\$900	-	-	\$2000 to \$10,000 CAD before tax  If you choose an 8GB + dedicated graphics card, you can ignore RAM and SSD upgrade prices
Windows 10 Pro		-	-	-	-	-	-	
Dedicated Graphics 4GB		Dedicated Graphics 6GB	+\$1,000	Dedicated Graphics 8GB	+\$1,700	Dedicated Graphics 16GB	+\$3,700	
8GB RAM		16GB	+\$200	32GB	+\$450	64GB	+\$900	
256GB SSD		512	+\$200	1TB	+\$500	2TB+	+\$900	



### Lenovo Desktop Estimated Pricing

ThinkStation Tiny								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i3	~\$1,100 CAD	i5	+\$150	i7	+\$600	i9	+\$1,000	\$1,100 to \$4,500 CAD before tax
Windows 10 Pro		-	-	-	-	-	-	
Dedicated Graphics 2GB		Dedicated Graphics 4GB	+\$500	-	-	-	-	
8GB RAM		16GB	+\$200	32GB	+\$800	64GB	+\$1,800	
256GB SSD		512	+\$220	1TB	+\$600	-	-	

ThinkStation SFF								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i3	~\$1,000 CAD	i5	+\$250	i7	+\$700	i9/Xeon	+\$1,000	\$1,000 to \$3,200 CAD before tax  If you choose any core upgrade, you can ignore RAM and SSD upgrade prices
Windows 10 Pro		-	-	-	-	-	-	
Integrated Graphics		Dedicated Graphics 2GB	+\$300	Dedicated Graphics 4GB	+\$1,000	-	-	
4GB RAM		8GB	+\$250	16GB	+\$500	32GB	+\$1,000	
256GB SSD		512	+\$600	1TB	+\$1,000	2TB+	+\$1,500	

ThinkStation Full Size								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i3	~\$1,000 CAD	i5	+\$200	i7	\$900	i9	+\$1,100	\$2000 to \$10,000 CAD before tax  If you choose an 8GB + dedicated graphics card, you can ignore RAM and SSD upgrade prices
Windows 10 Pro		-	-	-	-	-	-	
Integrated Graphics		Dedicated Graphics 2GB	+\$200	Dedicated Graphics 4GB	+\$600	Dedicated Graphics 8GB+	+\$2,300	
4GB RAM		8GB	+\$200	16GB	+\$450	32GB+	+\$900	
256GB SSD		512	+\$500	1TB	+\$900	2TB+	+\$1,500	



### Microsoft Surface Series Estimated Pricing

Surface Pro 8								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i5	~\$1,200 CAD	i7	+\$300	-	-	-	-	\$1,200 to \$3,000 CAD before tax
Windows 10 Pro		-	-	-	-	-	-	
8GB RAM		16GB	+\$200	32GB	+\$400	-	-	
128GB SSD		256	+\$100	512	+\$400	1TB+	+\$1,000	

Surface Book 3 15"								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i7	~\$3,200 CAD	-	-	-	-	-	-	\$1,200 to \$3,000 CAD before tax
Windows 10 Pro		-	-	-	-	-	-	
NVIDIA GeForce		NVIDIA Quadro	+\$900	-	-	-	-	
16GB RAM		32GB	+\$200	-	-	-	-	
256GB SSD		1TB	+\$1,000	2TB	+\$500	-	-	

Surface Studio 2								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i7	? CAD	-	-	-	-	-	-	Unable to get configuration and price, out of stock atm.
Windows 10 Pro		-	-	-	-	-	-	
NVIDIA GeForce 6GB		-	-	-	-	-	-	
16GB RAM		-	-	-	-	-	-	
1TB		-	-	-	-	-	-	



### Apple MacBook Pro Estimated Pricing

Mac Book Pro 13"								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
M1	~\$1,500 CAD	-	-	-	-	-	-	Upgrade options limited, not recommended  \$1500 to \$2650 CAD before tax
MacOS		-	-	-	-	-	-	
Integrated Graphics		-	-	-	-	-	-	
8GB RAM		16GB	+\$225					
256GB SSD		512	+\$2250	1TB	+\$450	2TB+	+\$925	

Mac Book Pro 14"								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
M1 Pro 8C	~\$2,309 CAD	M1 Pro 10C	+\$365	-	-	-	-	*must be upgrade together*  \$2,309 to \$6,094 CAD before tax
MacOS		-	-	-	-	-	-	
M1 14C (GPU)		M1 16C (GPU)	+\$450	M1 24C (GPU)	+\$590	M1 32C (GPU)	unlisted	
16GB RAM		32GB	+\$450	-	-	-	-	
512GB SSD		1TB	+\$225	2TB	+\$675	4TB+	+\$1,350	

Mac Book Pro 16"								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
M1 Pro 10C	~\$2,899 CAD	-	-	-	-	-	-	\$2,899 to \$6,044 CAD before tax
MacOS		-	-	-	-	-	-	
M1 16C (GPU)		M1 24C (GPU)	+\$225	M1 32C (GPU)	+\$420	-	-	
16GB RAM		32GB	+\$450	-	-	-	-	
512GB SSD		1TB	+\$250	2TB	+\$700	4TB+	+\$1,350	



### Apple iMac/Studio Estimated Pricing

iMac 24" and 27"								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
i5	~\$2,079 CAD	i7	\$270	-	-	-	-	Upgrade options limited, not recommended  iMac may be EOL being replaced by Mac Studio
MacOS		-	-	-	-	-	-	
Radeon 4GB		-	-	-	-	-	-	
8GB RAM		-	-	-	-	-	-	
256GB SSD		512	+\$250	-	-	-	-	

Studio M1 Max Core								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
M1 Max 10C	~\$2,249 CAD	-	-	-	-	-	-	\$2,309 to \$5,174 CAD before tax  Display purchase necessary
MacOS		-	-	-	-	-	-	
M1 24C (GPU)		M1 32C (GPU)	+\$225	-	-	-	-	
32GB RAM		64GB	+\$450	-	-	-	-	
512GB SSD		1TB	+\$225	2TB	+\$675	4TB+	+\$1,350	

Studio M1 Ultra Core								
Base Specs	Base Price	Upgrade	Price	Upgrade	Price	Upgrade	Price	Total Price Range
M1 Ultra 20C	~\$4,499 CAD	-	-	-	-	-	-	\$2,899 to \$8,999 CAD before tax  Display purchase necessary
MacOS		-	-	-	-	-	-	
M1 48C (GPU)		M1 64C (GPU)	+\$1,125	-	-	-	-	
64GB RAM		128GB	+\$900	-	-	-	-	
1TB SSD		2	+\$450	4	+\$1,125	8	+\$2,475	