

## STUDENT TECHNOLOGY FEE PROPOSAL

**Proposals Due: Monday, February 5, 2018**

**Approved awards funded after July 1, 2018**

**Department:** Earth & Environmental Sciences

**Budget Request:**

Year	Hardware	Software	Other	Salaries	Total
2018-2019	\$ <u>1,491.91</u>	\$ <u>10,375</u>	\$ _____	\$ _____	\$ <u>11,866.91</u>
2019-2020	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
2020-2021	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
2021-2022	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
<b>Totals:</b>	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

**Brief description of proposal:**

The purpose of this proposal is to request funds to modernize scanning electron microscope instrument software and purchase new imaging and mapping software for use in undergraduate classroom and research projects.

*Please attach the following items (in order) to this cover sheet:*

- Narrative (1-2 pages maximum)** – The proposal narrative must address the following:
  - State the general purpose of the request and the educational needs to be addressed.
  - Describe the role of the requested project in teaching.
  - What specific courses will benefit from the project? Why is the project important for these courses?
  - How frequently are these courses offered, and how many students are enrolled (based on records or projections)?
  - How will it benefit students?
  - Explain why available resources cannot meet this need.
- Budget** – The budget must include a detailed list of expected expenditures, **itemized into the following categories for each year:**
  - ✓ Hardware/Other Equipment (computers, peripheral devices, accessories); please specify representative model types for equipment priced over \$1,000
  - ✓ Software and licenses
  - ✓ Other expenses such as wiring, supplies or furniture (furniture enables the requested technology)
  - ✓ Labor (cost of labor for staff required to install, maintain, and/or support the project)
- Budget Justification** (1 page) – The budget justification must explain why the budgeted items are needed to fulfill the needs of the proposal. In particular, the types and level of the major equipment purchases must be justified.
- Installation & Management Plan** (1 page) – Please provide a comprehensive plan for the installation, support and maintenance of the equipment and/or facility. It must address such infrastructure issues as space, accessibility, furniture, power, and networking, as well as any technical staffing requirements for the installation and the operation of the facility (including resources to provide that staffing). OneIT and Facilities Management will review proposals in order to help assess feasibility. Note that the sponsor of any proposal should request CLAS Technology Services staff to review and make suggestions on practicality of the project specifications. Please document that communication in the proposal.
- DEO Endorsement** (1 page) – The DEO of the department must provide a letter of endorsement describing how the proposal relates to the departmental mission and priorities. For multiple proposals coming from a single department, the DEO must prioritize the projects. Multiple DEO letters can be submitted if several units will share the facility.

## 2018-19 STUDENT TECHNOLOGY FEE PROPOSAL

### General purpose/educational needs

The general purpose of this request is for funds to modernize scanning electron microscope (SEM) energy dispersive spectroscopy (EDS) program software and to purchase new imaging and X-ray mapping software for use in classroom instruction and undergraduate research projects. The research-teaching-classroom link has become critical to Earth Science education over the past 30 years, and the integration of field, analytical, and modeling skills are critical to the 21<sup>st</sup>-Century Earth Science curriculum. Students must be able to direct observation of geochemical and geophysical measurements from analytical studies gained in a laboratory, with direct field observations gained during field courses, with theoretical and conceptual models introduced to them in the classroom. World class Earth Science education requires world class equipment and analytical facilities for student education, training, and research opportunities.

### Role of requested items in teaching

The imaging and X-ray geochemical mapping software requested in this proposal will be used to develop classroom exercises that allow students to collect image and spatial chemical data in conjunction with direct observation of materials. The current imaging and X-ray mapping software has extremely limited capabilities that have already been extensively used for undergraduate coursework and research. We currently have four faculty who routinely mentor undergraduate student research projects with the current equipment. The new software will permit more students to use the technology, as the time required to image and map will be greatly reduced. Additionally, the new software will expose students to the current state-of-the-science in analytical geochemistry imaging and mapping. Instructors will be able to use the new equipment and software for a range of courses and purposes. Of greatest significance is the ability to link field courses/field trips where we show students the largest scale geological structures and features, collect samples in the field, then utilize the new equipment to show them how geochemical partitioning and distribution in the nano-/micro-scales impact the outcrop-scale features they saw in the field, and vice-versa. This equipment provides on of the missing links in the chain of laboratory-classroom-field that is so critical to Earth Science education. We have an excellent tradition of field training at the University of Iowa and our undergraduate students in the Geoscience major average more than 60 days in the field by the time they graduate. Unfortunately they average less than one week of classroom-related time in analytical laboratories by the time they graduate and this request will provide greater opportunity for classroom instruction to include analytical techniques. One option will be for the instructor to use the software to explore the changing mineralogy and chemistry of collected samples from a targeted field area to develop an exercise based on important geologic sites, such as economic mineral deposits or drill cores. Another option will be for students to map rock and mineral textures as part of a class assignment to better understand the relationship between the micro and the macro and the evolution of Earth surface features and hazards, such as volcanos. A third option will be to produce maps of rock samples prior to and/or following department field trips or field classes/exercises, where students can combine direct field observations and geochemical data, into an integrative field/lab/classroom project. Finally, the software will allow students to quickly map student research samples in preparation for travel to a national laboratory.

### What specific courses will benefit from these items?

Many courses in the Earth and Environmental Sciences Department have the potential to benefit from the acquisition of upgraded imaging and X-ray mapping.

<i>Course No./Title</i>	<i>Frequency offered</i>	<i>Average enrollment</i>
EES:2410 Mineralogy	Fall	15
EES:2831 Field Methods	Summer	25
EES:3110 Chemical Evolution of the Oceans	Spring (Alt)	20
EES:3300 Sedimentary Geology	Fall	25
EES:3500 Igneous and Metamorphic Petrology	Spring	15
EES:4490 Elements of Geochemistry	Fall (Alt)	15
EES:4520 Isotope Geochemistry	Fall (Alt)	15
EES:4750 Mineral & Petroleum Exploration	Spring (Alt)	20
EES:4831 Field Analysis	Summer	15
EES:5530 Geochronology	Spring (Alt)	15

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### How many students will benefit from these items and in what ways?

The list of courses that would benefit from the purchase of the proposed item has an average enrollment of 180 students over two academic years and includes five required courses within the Geoscience major. In addition, undergraduate students are already utilizing the current imaging and mapping software, but the ability to integrate additional students will increase with new software. A 2013 report from Georgetown University used O\*Net occupational data to characterize the most desirable skills for the future US workforce. The report states that leadership, communication, and analysis skills are extremely important for 96% of all occupations. It is widely recognized that students who are competitive upon graduation are able to collect, analyze, and interpret quantitative and qualitative data and draw inferences from them. Students acquire these skills by conducting undergraduate research. Findings of undergraduate research experiences demonstrate that students, faculty, institutions, and the community all benefit from involving students in research. Through research-led learning, students develop cognitive skills, learn to develop and maintain personal and professional relationships, and progress their career and educational ambitions.

### Budget

#### Software

ESPRIT 2.0 Software Upgrade	\$ 2,875.00
- includes ESPRIT 2.0 Software, User Manual, license	
Q214 ESPRIT ImageStitch	\$500.00
Q246 ESPRIT ImageExtension	\$1,500.00
Q241 ESPRIT StageControl	\$2,000.00
Q242 ESPRIT Jobs	\$3,500.00

#### Hardware

Dell Precision Tower 5810 XL	\$1,280.91
Dell UltraSharp 24 Monitor – U2415	\$211.00
<b>TOTAL</b>	<b>\$11,866.91</b>

### Budget Justification

ESPRIT 2.0 is the up-to-date software for Bruker EDS detectors. Importantly, it will allow the system to be upgraded to Windows 7, integration into the University of Iowa network and greater access for students and researchers to the system. The new software will require a new computer and monitor for the system. Current imaging and mapping software modules allow for single tile images and maps only, with low upper resolution limits and significant spherical aberration effects when using a wide field of view. The StageControl module allows the EDS software to control the SEM stage to navigate a large sample area. The Jobs module allows the user to specify corners of a large sample area to be mapped and imaged. Small area, high resolution images and maps are collected automatically within the specified corners. Using the ImageStitch module, the software will auto-stitch collected small area, high resolution images and maps from Jobs. The modules used together produce large field of view images and maps at high resolutions and free of spherical aberration. The state of the art Bruker EDS silicon drift detector (SDD) technology processes X-ray signals faster than most detector methods.

### Installation and Management Plan

Initial acquisition of these items and development of course materials is a one-time expense; the use of these items by an instructor will occur as part of their regular duties. Full-time Central Microscopy Research Facility (CMRF) staff will manage the software and train students and researchers in use of the software as part of their regular duties. No other installation or management plan is required.



**BRUKER AXS**  
 5465 East Cheryl Parkway  
 Madison, WI 53711  
 Tel: 708-386-9684  
 Fax: (908) 842-0396  
 www.bruker.com

Quotation No : 02012018MK01-IA  
 Quote to: University of Iowa  
 Address: Iowa City, IA

valid until: June 30, 2018

## ESPRIT 2 Upgrade for QUANTAX EDS and EBSD Systems

ESPRIT 2.0 is the latest micro- and nano-analysis software for SEM and TEM. The SEM package unites 4 methods under a single user interface: EDS, WDS, EBSD and Micro-XRF for SEM. The new architecture makes it easy for the user to switch between methods with a single mouse click, and facilitates combining different method results from the same sample. Combining techniques provides a more comprehensive analysis and can reveal details not accessible to a single technique alone. Supported combined techniques include, but are not limited to:

- EDS and EBSD
- EDS and WDS
- EDS and Micro-XRF for SEM.

The 64-bit software architecture supports the handling of large datasets. ESPRIT 2 is designed to suit the needs of all levels of users - from beginner to expert. Novices will benefit from the assistants that help performing routine tasks without having to learn details of the measurement method. More experienced users will value the option to drill down deeper when desired, allowing both detailed setup of measurements as well as in-depth analysis of results and automation of tasks.

<b>Q135</b>	<b>ESPRIT 2.0 software upgrade Set 1</b>	
	- ESPRIT 2.0 software	
	- User manual	
	- Updated ESPRIT license for measure system	
	- Updated ESPRIT License for offline data stations (if applicable)	<b>\$ 2,875</b>

### Software Options

• Q214 ESPRIT ImageStitch, automatic stitching of overlapping images <sup>1</sup>	Price: \$ 500
• Q246 ESPRIT Image Extension (requires Stage Control)	Price: \$ 1,500
• Q241 ESPRIT StageControl, control of the motor stage in SEM	Price: \$ 2,000
• Q242 ESPRIT Jobs, automatic task processing <sup>2</sup>	Price: \$ 3,500

### Terms of Delivery:

- Date of delivery: 2 months after receipt and confirmation of order
- Prices: FOB Madison WI
- Payment: 60% with order (payable upon receipt of invoice), 40% upon acceptance, Net 30
- Warranty: one year from date of installation.
- Software updates one year from date of installation are free of charge.

*Mark S. Kelsey*

<sup>1</sup> Requires Q202 ESPRIT Vision.

<sup>2</sup> Requires Q241 ESPRIT StageControl.



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## **Bruker Nano GmbH and Subsidiaries Terms and Conditions of Sale**

**1. GENERAL.** Orders are accepted by Bruker Nano GmbH and Subsidiaries ("Seller") subject to these terms and conditions.

These terms and conditions apply to the exclusion of all other terms. In case of a conflict, inconsistency or addition not expressly accepted in writing by Seller, the terms and conditions of sale provided herein shall be considered as superseding the conflicting, inconsistent or additional terms stated in Buyer's purchase order, order form, contract or otherwise.

The acceptance of an order will supersede all prior communications and constitute a complete and binding contract between the party purchasing equipment hereunder ("Buyer") and Seller, which contract cannot be modified or canceled without the written agreement of both parties.

### **2. OFFER / CONCLUSION OF CONTRACT.**

Seller's quotations shall be non-binding and subject to change unless expressly indicated otherwise.

Buyer's order constitutes a legally binding offer to enter into a contract.

The acceptance of an order shall be by way of a written contract confirmation by Seller (including by email). If no written confirmation is issued, a contract (subject to these terms and conditions) shall take effect by placing at disposal the goods. In this case, Buyer shall waive the receipt of a written confirmation.

**3. SHIPMENT.** Seller shall attempt to comply with, but will not guarantee, shipping date and loading and routing instructions. Seller reserves the right to allow or prorate shipments against all orders whenever, in its judgment, an oversold condition exists as to any particular product manufactured or sold by it. In the event of a default by Buyer, Seller may decline to make further shipments without waiving any of its rights under such order. If, despite such default, Seller elects to continue to make shipment, its action shall not constitute a waiver regarding, or otherwise diminish, Seller's legal remedies with respect to such default or any future default.

Any claims of Buyer for compensation due to the inability to deliver goods, or due to delays in delivery, shall be limited as set forth in Section 15 of these terms and conditions.

**4. TITLE AND DELIVERY.** All sales are made EXW factory, Incoterms 2010 and Buyer shall pay all freight, duties, cartage and handling. Title and risk of loss or damage shall pass from Seller to Buyer upon Seller's putting the material purchased hereunder in good condition into the possession of a common carrier, such carrier acting as Buyer's agent.

**5. PRICES.** Irrespective of any prices quoted by Seller or listed on Buyer's order, an order is accepted only at the prices shown on Seller's written quotation (the "Quotation"). Installation of utilities required for equipment is not included in the specified price.

### **6. PAYMENT TERMS.**

(a) Unless agreed otherwise, payment terms shall be as set forth in Seller's quotations.

(b) Buyer shall be automatically deemed in default upon expiration of the applicable period for payment under the preceding paragraph (a) without the need for a default notice to be issued. During any period of default, the price shall bear interest at the applicable statutory rate for default interest. Seller reserves the right to claim additional damages for default.

(c) All orders are subject to credit approval by Seller. The amount of any credit extended by Seller to Buyer may be changed, and such credit may be withdrawn by Seller. With respect to an order on which credit is not extended by Seller or, if extended, is subsequently withdrawn, shipment or delivery shall be made, at Seller's election, cash with order (in whole or in part), C.O.D., letter of credit or Sight Draft attached to Bill of Lading or other shipping documents, with all costs of collection for the account of Buyer. If, in the judgment of Seller, the financial condition of Buyer does not justify continuation of production or shipment on the terms of payment originally specified, Seller may require full or partial payment in advance. In the event any proceeding is brought by or against Buyer under any bankruptcy or insolvency laws, Seller shall be entitled, in addition to any other remedies at law or in equity, to (i) stop or divert any shipment in transit, (ii) cancel any order then outstanding and/or (iii) receive reimbursement for its cancellation charges.

(d) Seller shall be entitled to partial performances to the extent that (i) the partial performance can be used by Buyer in the context of the contractually intended purpose, (ii) the performance of the remaining parts is ensured and (iii) Buyer does not incur any additional costs as a result. Each shipment shall

be considered a separate independent transaction, and payment therefor shall be made accordingly.

(e) If for any reason the delivery is delayed at Buyer's request, Seller may store the goods at Buyer's expense and risk in the name of Buyer..

**7. TAXES.** Quoted prices do not include federal, state or local excise, sales, use or similar taxes. Accordingly, in addition to the prices specified on the Quotation, the amount of any applicable excise, sales, use and/or similar taxes will appear as separate items on the invoice and will be paid by Buyer unless prior to shipment Seller receives an appropriate tax exemption certificate from Buyer.

### **8. ACCEPTANCE / CUSTOMER SPECIFIC ACCEPTANCE ("CSA").**

8.1 Where it has been expressly agreed that Buyer's acceptance (in the meaning of § 640 German Civil Code) is required, then Buyer will accept the purchased equipment in accordance with the agreed CSA provisions. The parties will give priority to achieving CSA and the purchased equipment shall not be used by Buyer for material production, for development of new processes or for any purposes other than achieving CSA, prior to successful completion or waiver of the CSA provisions.

It is the responsibility of the Buyer to ensure that all the required facilities are ready and site preparation is completed for successful commencement of CSA on delivery of the equipment.

8.2 In the event of a delay in acceptance despite readiness for acceptance, the goods shall be deemed accepted if a) CSA has not been commenced within 30 days after delivery and completed within 60 days after delivery (through no fault of Seller) or b) (if an additional installation has been agreed) CSA has not been commenced within 15 days after any agreed installation and completed within 45 days after any agreed installation (through no fault of Seller), if not agreed otherwise or c) Buyer has started using the goods and 15 days have elapsed since delivery or (if applicable) any agreed installation.

**9. FORCE MAJEURE.** Seller shall not be liable for failure to perform occasioned by strikes, lockouts, labor difficulties, riots, inability or difficulty in obtaining or procuring supplies, labor or transportation, fires, storms, floods, earthquakes, explosions, accidents, acts of God, interference by civil or military authorities, whether legal or de facto, acts of the public enemy, war, rebellion, insurrection, sabotage, embargoes, orders given priority by any public authority or any other cause beyond the reasonable control of Seller if such event was not foreseeable at the time when the contract was entered into.

**10. PATENTS.** If a third party claims that the purchased equipment infringes that party's patent or copyright or other intellectual property right, Seller will defend Buyer against that claim and will pay all costs, damages and attorneys' fees that a court finally awards, provided that Buyer: (a) promptly notifies Seller in writing of the claim, and (b) allows Seller to control, and cooperates with Seller in, the defense and any related settlement negotiations.

If such a claim is made or appears likely, Seller, at its option, may obtain a license to enable Buyer to continue to use the product, may modify the product or may replace it with one that is functionally equivalent. If Seller is unable to do either of these things within a reasonable time, the Buyer may rescind the contract or claim a reasonable reduction of the purchase price.

Seller shall not be liable for any claim based on (i) anything Buyer provides which is incorporated into a product, (ii) Buyer's modification of a product or use thereof other than in its specified operating environment, or (iii) the combination, operation or use of a product with products provided by other manufacturers or other products not provided by Seller as a system.

Any claims of Buyer for compensation shall be limited as set forth in Section 15 of these terms and conditions.

Sale of products or parts thereof does not confer on Buyer any license relating to (a) the structure of any devices to which the products or parts may be applied or (b) a process or machine in connection with which they may be used.

**11. RESCHEDULING.** If Buyer has been granted by Seller any rescheduling rights, such rights shall be as set forth in [Exhibit A](#).

**12. CANCELLATION.** If Buyer has been granted by Seller any additional contractual cancellation rights, such rights shall be as set forth in [Exhibit A](#).

**13. ASSIGNMENT.** Buyer shall not assign this order or any portion thereof without the prior written consent of Seller.





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**14. WARRANTY ("Gewährleistung" in terms of German Civil Code).**

(a) Unless these terms and conditions (including Sections 10 and 15) provide otherwise or specify additional terms, the relevant statutory provisions shall govern Buyer's rights in the case of material or legal defects ("*Sach- und Rechtsmängel*").

(b) No warranty shall be provided for standard wear and tear for this type of contract (particularly for filters, lamps, pilot lights, filaments, fuses, mechanical pump belts, probes, V-belts, wafer transport belts, pump fluids, O-rings and seals),

(c) No warranty shall be provided for all used equipment, including demo equipment.

(d) No warranty shall be provided for equipment and system failures resulting from (i) abuse, misuse, modification or mishandling; (ii) damage due to forces external to the machine including, but not limited to, acts of God, flooding, power surges, power failures, defective electrical work, transportation, foreign equipment/attachments or Buyer-supplied replacement parts or utilities or services such as gas; (iii) improper operation or maintenance; or (iv) failure to perform preventive maintenance in accordance with Seller's recommendations (including keeping an accurate log of preventive maintenance). In addition, this warranty does not apply if any equipment or part has been modified without the written permission of Seller or if any Seller serial number has been removed or defaced.

(e) Specifically excluded from this warranty is all standalone computer and data storage equipment not manufactured by Seller (such as computers, monitors, printers and printer buffers). Such equipment will carry only the original manufacturer warranty.

(f) Unless acceptance (in the meaning of § 640 German Civil Code) has been expressly agreed, Buyer has a duty to inspect delivered goods promptly after they are delivered to Buyer or any third party nominated by it, and promptly report any defects. §§ 377 and 381 German Commercial Code and the terms of this subsection shall apply to goods inspections and defect notifications. The requirement of prompt notification shall be deemed satisfied if a notice of defects is sent, at the latest, within five (5) working days of delivery or, if the defect was not evident at the time of the goods inspection, at the latest within three (3) working days after the defect is identified. Seller assumes no warranty and accepts no other liability for defects if Buyer has failed to properly inspect the goods and/or report defects.

(g) Buyer must give Seller an opportunity to review the complaint, particularly by making available respective goods and their packaging to Seller for inspection. At Seller's request, the goods subject to complaint must be sent back to Seller. Buyer must contact Seller in advance for authorization to return equipment and must follow Seller's shipping instructions. Freight charges and shipments to Seller are Buyer's responsibility. In the event of a justified defect complaint, Seller shall reimburse the costs of the least expensive shipping method; this shall not apply if the shipping costs are increased because the goods are located somewhere other than the place of contractually agreed use.

(h) If the goods are in fact defective, Seller will cover the necessary expenses for the purpose of examining the goods and effecting supplementary performance, particularly including transport, infrastructure, labor and material costs. Supplementary performance shall not include either dismantling and removing the defective item or re-installing a non-defective item if Seller had no installation obligation originally. However, if Buyer's request to remedy a defect proves to be unjustified, Seller may require Buyer to reimburse Seller's costs.

(i) If the delivered goods are defective, Seller shall be entitled to its choice of supplementary performance ("*Nacherfüllung*"), either by rectifying the defect (repair) or by providing a new, non-defective item (replacement).

(j) If it is not possible to effect supplementary performance or if the attempt to supplementary performance is unsuccessful, or if the reasonable period for effecting supplementary performance has expired without result or can be dispensed with according to statute, Buyer may, at its election, rescind the contract or reduce the purchase price. However, there is no right of rescission in the case of minor defects.

(k) Any claims of Buyer for compensation shall be limited as set forth in Section 15 of these terms and conditions.

**15. LIMITATION OF LIABILITY.**

15.1 Further claims by Buyer, particularly for damage compensation in place of performance and compensation for other direct or indirect loss – including accompanying or consequential loss, regardless of legal grounds – are hereby excluded. This shall not apply if:

(a) Seller has fraudulently concealed a legal or material defect or has provided a guarantee for its absence, or for a characteristic of the goods;

(b) The damage is due to intent or gross negligence on the part of Seller, one of its legal representatives or assistants, or is due to a negligent violation of

valid until: June 30, 2018

material contractual obligations on the part of Seller or these persons.

Material contractual obligations are obligations whose fulfillment is material to due and proper implementation of the contract and which the contractual partner regularly expects and can trust to be fulfilled. However, in the event of simple negligence, Seller's liability for damages other than personal injury or damage to health shall be limited to the foreseeable loss typical for this type of contract;

(c) A culpable breach of obligations on the part of Seller or its legal representatives or vicarious agents has led to personal injury or damages to health; or

(d) Seller is liable under the German Product Liability Act ("*Produkthaftungsgesetz*").

For the avoidance of any doubt, the foregoing provision in Section 15.1 does not imply a change in the burden of proof to the detriment of Buyer.

15.2 The provisions of Section 15.1 shall apply correspondingly to any direct claims by the Buyer against Seller's legal representatives and vicarious agents.

15.3 Contractual penalties (penalties for non-performance, flat-rate damages, etc.) to which Buyer is subject by a third party can only be claimed as damage compensation from Seller – regardless of the other requirements – if this has been expressly agreed in advance between Buyer and Seller or if Seller has been expressly informed in writing of a potential contractual penalty agreed between Buyer and a third party before the conclusion of the contract with Seller.

15.4 In every case, the statutory provisions for final delivery to a consumer who is a private individual shall remain unaffected (supplier's recourse as per §§ 478, 479 German Civil Code).

**16. LIMITATION PERIOD.**

16.1 In deviation from § 438 (1) no. 3 German Civil Code, the limitation period for claims based on material or legal defects (including those not based on the contract) shall be 12 months from the date of delivery; however, the foregoing shall not apply in the cases described in Section 15.1 (a) to (d) of these terms and conditions. The applicable statutory limitations period shall apply in those cases. If an acceptance in the meaning of § 640 German Civil Code has been agreed, the periods shall begin upon acceptance.

16.2 The limitation period in the event of supplier's recourse as per §§ 478, 479 German Civil Code and the limitation periods set forth in § 438 (1) no. 1 and no. 2 and 438 (3) German Civil Code shall remain unaffected.

**17. NONSOLICITATION.** Buyer will not solicit the employment of any employee of Seller who has come into contact with Buyer in connection with the products or services provided to Buyer hereunder.

**18. COMPLIANCE WITH LAWS.**

(a) The performance of each party hereunder is subject to compliance with all applicable laws.

(b) Buyer understands that exports and re-exports of Seller's products and any related software, service, technical assistance, training and related technical data, and any media in which any of the foregoing is contained (the "Items") may be subject to German, European, U.S. and foreign trade controls, customs, anti-boycott and economic sanctions laws, regulations, rules and orders (the "Export Laws"). In addition to any other remedy it may have, Seller may suspend or cancel the export, delivery, installation, or any maintenance or repair service of any Item if (a) Seller has not received all export-related documentation requested by Seller, including end-user certificates, (b) Seller has not received the governmental approvals that Seller deems to be required, or (c) Seller believes that such activity may violate any Export Laws or Seller's own compliance policies.

Buyer shall only use the Items for non-military, peaceful purposes. Buyer shall not export, re-export or otherwise transfer or provide any Item in contravention of any applicable Export Law or any end-user certificate provided by Buyer, including to an embargoed or otherwise sanctioned country, to anyone listed on any applicable prohibited persons list published by the U.S., the UN, the EU or the OSCE, or for a prohibited end-use (such as research on or development of chemical, biological, or nuclear weapons, unmanned air vehicles or missiles, or nuclear explosive or fuel cycle activities). Buyer must notify Seller before providing any technical data to Seller that is controlled under any applicable Export Law. Seller will not be liable to Buyer for any loss or expense if Buyer fails to comply with any Export Law.

(c) Buyer will comply with all applicable import laws or other restrictions or conditions respecting the import of Items that are now in effect or are hereafter imposed by any government or other applicable jurisdiction. Buyer shall be responsible for obtaining any necessary import permit, license or authorization at its sole cost and expense. Buyer shall immediately notify Seller if an import permit, license or other authorization is required in connection with any such import.



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**19. APPLICABLE LAW / PLACE OF JURISDICTION.** The contract created hereby shall be interpreted and construed under the laws of Germany, without regard to the choice of law provisions thereof and not including the U.N. Convention on Contracts for the International Sale of Goods.

The place of exclusive (and international) jurisdiction for any and all disputes arising out of or in connection with the Seller's business relations with the Buyer shall be the place of Seller's registered office. However, Seller may also sue Buyer in the place of its domicile.

**20. SEVERABILITY CLAUSE.**

If individual provisions of these terms and conditions should be void or invalid in whole or in part, this shall not affect the validity of the remaining provisions. In place of any provisions which are invalid or not incorporated into the contract primarily the statutory provisions shall apply. In all other cases, the Parties shall agree a valid provision to replace the invalid or unenforceable provision which reflects as closely as possible the original economic purpose, provided a supplementary interpretation of the contract does not have precedence or is not possible.



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## Dell Precision Tower 5810 XL - Build your own

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Dell Precision Tower 5810 XL - Build your own

Unit Price: \$1,280.91  
Order Code: CUP5810XLW7PM

Option	Selection	SKU/Product Code	Quantity
Processor	Intel® Xeon® Processor E5-1603 v3 (4C, 2.8GHz, 10M, 140W)	338-BFQZ, 412-AADM	1
Operating System	Windows 10 Pro for Workstations (up to 4 Cores) Multi - English, French, Spanish	619-AMUB	1
Microsoft Application Software	No Productivity Software	630-AAPK	1
Chassis Options	Dell Precision Tower 5810XL 685W Chassis, v2, BW	321-BCDU	1
Video Card	NVIDIA® NVS 315 1GB (DMS59) (DMS59-Dual DVI adapter) (ULGA12)	490-BBWX	1
Memory	8GB (2x4GB) 2400MHz DDR4 RDIMM ECC	370-ACQX	1
Systems Management	No Out-of-Band Systems Management	631-AAID	1
Hard Drive	1TB 3.5" Serial-ATA (7,200 RPM) Hard Drive	400-AIJM	1
2nd Hard Drive	No Additional Hard Drive	401-AADF	1
3rd Hard Drive	No Additional Hard Drive	401-AADF	1
4th Hard Drive	No Additional Hard Drive	401-AADF	1
Storage Volume	Boot drive or boot volume is less than 2TB	411-XXXY	1
HDD Controller	Integrated Intel AHCI chipset SATA controller (6 x 6.0Gb/s) - SW RAID 0/1/5/10	403-BBGV	1
Internal Hard Drive Configuration	C1 SATA 3.5 Inch, 1-2 Hard Drives	449-BBEF	1
RAID Configuration/Connectivity	No RAID	780-BBCJ	1
Keyboard	Dell KB216 Wired Keyboard English Black	580-ADJC	1
Mouse	Dell MS116 Wired Mouse Black	275-BBBW	1
Teradici Remote Workstation Access Host Card	No Dell Tera2 Remote Access host card for the Wyse P25 Zero Client	386-BBBE	1
Network Card	1Gbit NIC add-in card (PCIe- Intel)	540-BBIK	1
Sound	No Add-in Sound Card (Integrated Audio Only)	510-BBBW	1
Thunderbolt Card	No Thunderbolt Card	817-BBBC	1
Additional Storage Devices	No Media Card Reader	385-BBBL	1
CD ROM/DVD ROM	8x Slimline DVD+/-RW Drive	429-AAPE	1
Speakers	Internal Speaker	520-AADM	1
Documentation/Disks	Safety/Environment and Regulatory Guide (English/French Multi-language)	340-AGIK	1
Placemat	Quick Reference Guide	340-AUKD	1
Resource DVD	Resource DVD not Included	430-XXYU	1
Operating System Recovery Options	OS-Windows Media Not Included	620-AALW	1
E-Star	No Energy Star	387-BBBE	1
Optical Software	PowerDVD Software not included	429-AABU	1
Dell Encryption and Threat Prevention	No Dell Data Protection   Endpoint Security Suite Software	634-BENZ	1
Dell Backup & Recovery	No DBAR	637-AAAM	1
Monitor Adapters	No Accessories	461-AABV	1
TPM Security	TPM	329-BBJL	1
Hardware Support Services	39 Months ProSupport with 39 Months NBD Limited Onsite Service After Remote Diagnosis	976-7803, 976-7838, 976-7851, 976-7863, 976-7864, 989-3449	1
Non-Microsoft Application Software	Windows 10	422-0008, 525-BBCL, 640-BBES, 640-BBLW, 658-BBMQ, 658-BBMQ, 658-	1



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# U2415

**Price: \$211.00**

Ships in 0 - 1 business days



U2415

Unit Price: \$211.00  
Order Code: RCRC966608-4635450

Option	Selection	SKU/Product Code	Quantity
Dell UltraSharp 24 Monitor - U2415	Dell UltraSharp 24 Monitor - U2415	210-AGSU	1
Hardware Support Services	5 Years Advanced Exchange Service	814-5380, 814-5383	1

Same day shipment subject to order size limitations, Dell standard shipping methods and payment via credit card, gift card or Dell Business Credit. Notification will be provided if there are payment delays which could impact shipping date. Electronics and accessories may ship separately. Smart Selection. Limited quantities. Only available for orders placed by 5:59 p.m. CT Mon.–Thurs. Systems shipped the next business day after an order is placed. Subject to order approval. Software and accessories not part of the configuration will be shipped separately and may arrive after your system. Please note that Smart Selection Configuration pricing cannot be combined with other pricing offers or discounts provided or agreed to by Dell. \*\* Orders with Custom Factory Integration might require additional processing time. **Dell Business Credit:** Offered to business customers by WebBank, Member FDIC, who determines qualifications for and terms of credit. Taxes, shipping and other charges are extra and vary. Minimum monthly payments are the greater of \$15 or 3% of the new balance shown on the monthly billing statement. Dell and the Dell logo are trademarks of Dell Inc. **Payment solutions provided and serviced by Dell Financial Services L.L.C. or its affiliate or designee ("DFS") for qualified customers. Offers may not be available or may vary in certain countries. Where available, offers may be changed without notice and are subject to product availability, credit approval, execution of documentation provided by and acceptable to DFS, and may be subject to minimum transaction size. Offers not available for personal, family or household use. Dell and the Dell logo are trademarks of Dell Inc. Restrictions and additional requirements may apply to transactions with governmental or public entities.** Subject to applicable law and regulations.

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