

Student Technology Fee
Grant Proposal Request Form
Fiscal Year 2009-10
Northwestern State University of Louisiana

NF

#2
2010.017

ALL BLANKS MUST BE FILLED COMPLETELY

Prepared by: Dr. Andrei Ludu, Professor For: Dept. Chemistry and Physics

Department/Unit: Chemistry & Physics College: Science and Techn. Campus: Natchitoches

Which NSTEP Goals/Objectives does this project meet? 1,2,3,4,5,6,7,8,9,10

Requested equipment will be located/installed/housed? Building Fournet Hall, rooms 124, 104, 110, and 107

Are department property policies and procedures in place for requested equipment? Yes

Which individual will be responsible for property control of the requested equipment?

Signature: *A. Ludu* 10/30/09 Date: October 22, 2009

Grant Proposal Requested Amount: \$ ~~5,250~~ 10,300 Budget Attached (circle one): YES/NO

Grant delivered to Student Technology located in Watson Library, Room 113. Date 10/30/09

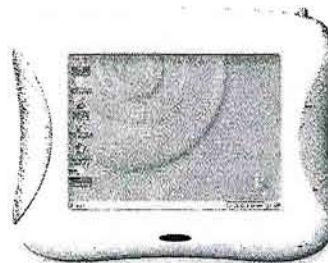
1. Describe target audience.

All students enrolled in the PHYS-1010-01N, CHEM-1010-01N orientation classes. That is 15-20 students each spring semester for 5 years. These are the students who may decide to major or minor (or both) physics or (and) chemistry. Occasionally as class demonstration in the SCI-1010 classes with count 600-800 students per semester. These will be hands-on classes where the 100 student class will be divided in groups of 4-5 students. A new educational idea of group work will be applied by identifying in each groups students responsible with phenomena identification and inquiry, data acquisition, data processing, sensors handling, data report, conclusions and graphics, respectively. In average 70 students served effectively per semester.

2. Describe project/initiative for which you are requesting funds.

Think outside the Lab !

If you review this grant proposal we would kindly ask you to visit the site: http://h30418.www3.hp.com/?fr_story=e1b826fdb0970e44a849e5a0e64cc23256029a78&rf=sitemap and the 3 minutes demo. It is the best possible presentation of the kit we want to purchase for our students:





This grant will buy 10 kits "HP Mobile Calculator Lab" each consisting in a solid black case containing a state-of-the-art HP graphic calculator, 5 sensors for measurement of pressure, speed, acceleration, sound, temperature, etc., interfaces and wiring. With the sensors plugged into the graphic calculator the students can record motions, Doppler signals, sounds, pressure, temperature, electric quantities, in general all sort of physical signals. Once the signals recorded the calculator can perform a huge range of data handling, sorting and analyzing by using internal programs like Fast Fourier Transform, Vernier, Wavelet, spline, etc. All sort of phenomena, laws of science and open questions can be obtained through this kit. We intend to use the kits for hands-on practice of students in these classes. The kits enable the students to better connect mathematical formulas and data handling to everyday physical phenomena by easily collecting and analyzing real-world data in real time. According to the technical specifications the Mobile Calculating Lab (MCL) solutions are composed of a HP 39gs or 40gs Graphing Calculator, the HP StreamSmart 400, a variety of Fourier scientific sensors and probes, as well as calculator presentation software and classroom instruction materials. The sensors capture physical data such as temperature, light or sound, and the HP StreamSmart 400, which is a four-port data streamer, translates the probe signals into numerical data.

In one word, these ultra-portable, very sophisticated-software "mini-labs" are data analyzing units with exquisite graphic presentation of almost all possible physical phenomena. All sort of relevant and inquiry base experiments (enhancing the students inquisitive thinking and spirit of innovation) are possible. Such experiments can be performed on a regular basis only in the later labs PHYS-2031,-2041, -2511,-2521, and -3291 where students need to enroll long time after their decision to pursue a scientific career. Consequently, these kits allow earlier access for our students to high technology without any complicated prerequisites.

3. State measurable objectives that will be used to determine the impact/effectiveness of the project.

a. **Increase students effectiveness of handling data and technology;** These kits are used—in a more complex form—all over industrial platforms for data acquisition. Once learning to work with this stream of data, students will be able to enhance their skills at a faster rate.

b. **Enhance student's positive attitude towards science and hands-on science** by having students work with modern miniature, portable yet exact and complex equipment, obtaining credible interesting results of science from the most common and available phenomena.

c. **Increase retention and recruiting factors for the science programs;** Interesting experiments, new questions generators, new inquiry factors for students frame of understanding.

d. **Increase the efficiency of the use of class time** by making live measurements and collective data analysis without too much boring and ineffective traditional teaching;

e. **Enhancement of student's quality of instruction** by working hands on high level projects with efficient equipment, without the need of complicated and difficult to obtain prerequisites through other physics and math classes.

f. **Increase student's competitiveness in the job market** by exposing them to new, compact, modern systems of data recording and analyzing, now in use everywhere in industry and higher education institutes.

4. Indicate how each project objective will be evaluated.

a. Students will be given a pre-test before working with the kits, and a post-test after using them at the end of the semester. The post test will be multiple hands-on: work outdoor efficiently with the kits, identify measurable phenomena, acquire correct and enough data, process the data using all software available in the HP calculators, draw conclusions from data processing. The difference in the quality and volume of the pre and post answers will mark a clear measurable quantity.

b. This objective will be evaluated by the retention percentage of students in the chemistry and physics programs, namely the ratio between chemistry/physics junior, senior and graduating students, and the enrollment in these orientation classes. Students will fill a anonym questioner about the class.

c. Same as (b) above. Precision counting of student retention numbers, from one semester to the next, in all chemical and physics classes all the way to graduation.

d. Dr. Ludu has the syllabi of the orientation classes taught in 2002-2009. These notes will be compared with the activity in the orientation classes during 2010-2012 as follow: in volume of information taught, skills developed in hands-on working, quality and innovatively of experiments performed, intense and efficient use of high level technology

e. Comparing the syllabi and the course notes between these classes and similar classes offered in the College of Science and Technology.

f. Observing alumni path of career year by year. The result of this measurement will be available only beginning 2014.

5. If funded, which NSTEP <http://www.nsula.edu/nstep/NSTEP.pdf> objective(s) will the funding of this project advance. How will funding of the project advance the University and College/unit technology plan?

NSTEP Objectives:

1. To improve access to technology by students, faculty, and staff at Northwestern State University.

The kits are state-of-the-art miniature portable data analyzing units with highest performance software and exquisite graphic presentation. Such experiments can be performed on a regular basis only in the later labs PHYS-2031,-2041, -2511,-2521, and -3291 where students enroll long time after their decision to pursue a scientific career. The purchased kits allow earlier access of students to similar high technology (as in these above cited labs) and without any prerequisites.

2. To provide classrooms with updated technology and multimedia.

Obviously, these kits will advance the technology plan since they are designed for this purpose.

3. To upgrade laboratories with modern technology.

The HP kits are new devices, and we can benefit of periodic training sessions in Shreveport, Alexandria and even NSU at request from qualified HP personnel working in the design of this kits.

4. To improve and proliferate the use of distance education within all colleges at NSU.

The experimental results obtained by students in these orientation classes by using these kits will be the basis of questions and assignments of all following FORUMS in the Blackboard SCI-1010 classes. So far we requested students to perform home-made experiments, now we can deliver them on line the results of the experiments performed hands-on by the students in the orientation classes. The data analysis is Excel and Word friendly so it can be easily propagated among the internet physical sciences students.

5. To upgrade and maintain the campus communication network and infrastructure.

The experiments and results will be posted on blackboard. The data files can be used by other students through campus online network for other labs.

6. To provide a system for maintenance, upgrade, user training, and support of technology that will extend into the future.

These kits prove the versatility of high training with new technology. They represent an upgrade in all levels from science education to technology using.

7. To encourages technology initiatives by faculty, staff, and students.

The HP experimental sets are flexible and easy to use. They are innovation friendly and they have a wide range of applications in all sort of real world experiments and observations. Compare to the traditional 3 hours lab in the physics lab, this kits represent a strong step forward towards availability and effectiveness.

8. To encourage innovation and research.

As stated above, these sets provide a portable work environment in which students and faculty can conduct research and encourage more technological initiatives that needed to continue conducting innovative research.

9. To maintenance support of hardware and software upgrades, new hardware and software for specialized functions, training for technical support personnel.

The HP tools are designed having in mind training of students towards scientific and technical skills. Their principles encourage the innovation and inquiry. In themselves the kits upgrade the software on campus.

10. To maintain a technology budget for the University, its colleges, and its directorates.

We hope that the use of these tools will be so productive and successful, that the University will tend to order more kits like that, having a greater impact on more students technically oriented.

All the four Science & Technology and University Goals are supposed to be served by this grant.

The use of these portable mini-labs will increase and help to maintain the most responsive student-oriented technical and scientific environment. This proposal student oriented and designed to help them interact with modern, functional equipment. This proposal will help maintain teaching and research facilities used by students to further their understanding of physics in particular and science in general. We hope to increase the retention numbers for students in physics and chemistry by allowing them to work with new and attractive equipment that will have more positive impact and make them feel more like science-involved. The kits will directly influence beneficially the retention numbers in science and increase the science graduate percentages. This will automatically have direct impact in promoting economic development, quality of life improvement in the region by offering highly qualified students trained in scientific and technical disciplines, as well as highly qualified teachers for science in the Northwestern Louisiana schools.

6. Provide a justification for funding of this project. Estimate the number of student that will be served per academic year and in what ways. Please indicate also any unique needs

of the target group.

We estimate the involvement of 15-20 students in orientation classes, all around the spring semester, every class, as well as occasional hands-on class demonstration for the SCI-1010 students, which count 600-800 per each semester. This proposal will serve 100 students in average and with a budget of \$9,450 we consider \$ 100 per student as a good deal to provide students with the skills to be successful in a technological workforce

This proposal represents a solution designed specifically for science classrooms that allows our students to visualize experimental results immediately by streaming data in real time from a variety of real-world probes and sensors. These kits are extremely good for hands-on in-class work because they save time by minimizing experimental setup – just plug it in and go! The kits will empower our potential chemistry/physics students with physical experiences of modeling and with discovery of the physical laws that govern matter. The kits provide reliable calculator solutions that cover a wide range of experiment types. They requires virtually no setup and lets students truly experiment and collect data with ease, like it is supposed to be in an orientation (and not specialized or advanced) class.

Instead of connecting the probes to a computer or laptop, instructors and students can now view the results on a portable calculator and take their experiments in and out of the classroom. Moreover, the data will be able to be viewed on any other HP graphing calculator.

The direct consequences of using these kits are a positive and efficient increased curriculum development of the orientation classes, especially the possibility of writing and editing our own NSU custom editions textbooks for the Orientation 1010 and SCI-10101 classes. There is also a high expectation of increasing of the quality of the science education for students and PD of faculty.

7. List those individuals who will be responsible for the implementation of the project/initiative and indicate their demonstrated abilities to accomplish the objectives of the project.

A. Ludu (PhD) , M. Ludu (MNS) both teaching full time at Dept. Chem. & Phys.

8. Describe any personnel (technical or otherwise) required to support the project/initiative.
N/A

9. Provide a schedule for implementation and evaluation.

Immediate implementation after purchasing. The efficiency of the use will be evaluated by the end of every semester. In addition HP offers each 6 months free training in Shreveport and Alexandria. M. Ludu has attended several instructional sessions with HP and she is invited to attend at least one per semester, in Louisiana.

10. Estimate the expected life of hardware and software. Explain any anticipated equipment/software upgrades during the next five years.

8-10 years. HP will upgrade for free the software, and offer fee-free training in semestrial sessions in Louisiana. The sensors are robust and need no upgrade for at least 5 years (we have experience with similar sensors in the regular physics labs).

11. Explain in detail a plan and policy that will be in place to ensure property security controls for any equipment received through a Student Technology Fee. If you are requesting equipment that will be either/or checkout to students or moved within the department, you must provide a checkout/loan policy.

The kits will be used only in the presence of the instructors. After each class the kits will be deposited in the lab, room 124 Fournet Hall, which has electronic security locks.

Attach two (2) letters of support for the project from the following individuals: the requesting department's Dean, the appropriate Vice President (for non-academic units), or the SAC President from the requesting campus (for student requests).

Student Technology Fee Grant Proposal Checklist:

- Is all information requested provided (items 1 - 11)?
- Is a detailed budget attached?
- Is all specifications, description, model number, quotation, cost, state contract number, and vendor provided for each item?
- Are your two (2) letters of support attached?
- If equipment is to be checked-out/loaned, is your policy attached?

Student Technology Fee Grant Application

Applicant: Dr. Andrei Ludu, Dept. Chemistry and Physics,

College of Science and technology

BUDGET

Object	Provider/Vendor	U.P. \$	Quantity	Total price \$
HP Mobile Lab, HP 39gs, StreamSmart 400	Hewlett-Packard Company 3000 Hanover Street Palo Alto, CA 94304-1185 USA Mr. Kip Tyler, 1-800-277-8988 ext. 7719071 (his desk) Education 1-800-727-2472/1-800-727-8988 ext. 1 Phone: (650) 857-1541 Fax: (650) 857-5518 Open between 8:00 a.m. and 5:00 p.m. Pacific Time, Monday – Friday http://welcome.hp.com/country/us/en/contact/office_locs.html Customer Support Phone: 877.266.4066, E-mail: info@fourier- sys.com Technical Support, Phone: 866.771.NOVA, E-mail: support@fourier- sys.com	1,030.00	10	10,300.00
TOTAL	\$ 10,300.00			



PRICE QUOTATION

Page 1 of 2

Quote Number: 4314743

October 23, 2009

Provided by: Kip Hans Taylor

John Crawford

Northwestern State University

Contract: NATIONAL EDUCATION PRICELIST (EDUWEB)

Product availability and product discontinuation is subject to change without notice. The prices in this quotation are valid for 30 days from quote date above. Please include the quote number and contract from this quote on the corresponding purchase order. HP CONFIDENTIAL AND PROPRIETARY INFORMATION. DO NOT SHARE.

Item	Part No.	Description	Qty.	Unit Price	Extended
Group:					
1.	F2233AA#ABA	HP 39gs Graphing Calculator	10	\$80.00	\$800.00
2.	F2235AA#ABA	HP StreamSmart 400 Perform your experiments with ease and flexibility Lightweight and ultra-compact, it lets you take your experiments outside the classroom Easily choose among four different data capture modes Select just the data you want and export it to the HP 39/40gs graphing calculator for in-depth analysis	10	\$100.00	\$1,000.00
3.		See Comments Below NW220AA#ABA HP MCL Mid Grade Science Solution	10	\$850.00	\$8,500.00
SUB TOTAL :					\$10,300.00

TOTAL PRICE :

\$10,300.00

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Note: For detailed warranty information, please link to "URL" for more information www.hp.com/go/specificwarrantyinfo.

Sales taxes added where applicable. Freight is FOB Destination.



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Page 2 of 2

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Item	Part No.	Description	Qty.	Unit Price	Extended
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* The monthly payment amount is for a lease commencing on or before 11/22/2009 with a term of 36 months and a fair market value purchase option at the end of the lease term. This and other leasing and financing options are available through Hewlett-Packard Financial Service Company (HPFSC) or one of its affiliates to qualified education and state and local customers in the U.S. and subject to credit approval and execution of standard HPFSC documentation. Fees and other restrictions may apply. This is not a commitment to lease. Rates and payments are subject to change at any time without notice. Leasing and financing options for Federal governmental agencies (subject to a \$50,000 minimum) are available from Hewlett-Packard Company.

Comments: **All HP Public Sector Purchase Orders must be endorsed to HP with the following information:**

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10810 Farnam Drive
Omaha, NE 68154**

**Federal Tax ID: 94-1081436
DUNS: 134303192**

There is no shipping/handling fee

Please reference any of the following that apply; contract number, big deal number and quote number on the P.O.

Attach a copy of the quote to your completed purchase order

If this is your first order and your school or agency is tax exempt, please attach a copy of your tax certificate to the P.O.

Note: For detailed warranty information, please link to "URL" for more information www.hp.com/go/specificwarrantyinfo.

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Public Sector Sales

October 26, 2009

Northwestern State University

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- Third party items that may be included in this quote are covered under the terms of the manufacturer warranty, not the HP warranty. This quotation may contain open market products which are sold in accordance with HP's Standard Terms and Conditions.

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Sincerely,

Kip Hans Taylor
Inside Sales Representative



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To ensure the accurate and timely processing of your order, please verify that your purchase order includes the following information:

- o Bill-to address
- o Ship-to address
- o Purchase order number,
- o Part number, description, and price,
- o Contract # and date
- o Reseller of contract
- o Contact name, phone number, and email address,
- o Special delivery requirements
- o Requested delivery date
- o Signature of authorized purchaser
- o Please note that Hewlett Packard must be listed as the vendor.
- o Sample/Edit Purchase Order forms are available at these links -
 - o Standard (K12 / Hi Ed / Fed) - http://gem.compaq.com/gemstore/sites/downloads/SLED_PO_Template.pdf
 - o Federal 1449 - http://gem.compaq.com/gemstore/sites/downloads/FED_PO_Template_Form_1449.pdf

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All tax-exempt accounts require a tax-exempt certificate needs to be provided.

Requirements

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A return material authorization number (RMA) is required for all returns to be processed. Returns may be requested within 30 days of shipment. Please call your Public Sector Customer Service Representative in order to have an RMA assigned. Please have a copy of the packing slip available when you call.

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PRICE QUOTATION

Quote Number: 14743-2

October 26, 2009

Provided by: Kip Hansen

John Crawford
Northwestern State University

Contract: NATIONAL EDUCATION PRICELIST (EDUWEB)

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Item	Part No.	Description	Qty.	Unit Price	Extended
Group:					
1.	F2230AA#ABA	StreamSmart 400 Perform your experiments with ease and flexibility. Lightweight and ultra-compact, it lets you take your experiments outside the classroom. Easily choose among four different data capture modes. Select just the data you want and export it to the StreamSmart 400 graphing calculator for in-depth analysis.	15	\$100.00	\$1,500.00
2.	F2230AA#ABA	Comments Below F2230AA#ABA HP MCL Mid Grade Science Solution	15	\$850.00	\$12,750.00
3.	F2227AA#ABA	400gs Graphing Calculator	15	\$80.00	\$1,200.00
SUB TOTAL :					\$15,450.00

TOTAL PRICE : \$15,450.00

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Quote Number: 41743-2

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Federal Fax # 94-1081436
DUNS 3430192

- *The shipping/handling fee*
- *Please include any of the following that apply; contract number, big deal number and quote number on the P.O.*
- *Attach a copy of the quote to your completed purchase order*
- *If this is your first order and your school or agency is tax exempt, please attach a copy of your tax certificate to the P.O.*



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If you should have any questions regarding this quotation or need any other assistance, please contact your Public Sector sales representative.

Sincerely,

Kristina Taylor

Business Representative



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Online Ordering

At the Hewlett-Packard Online Store, you can create quotes with real-time pricing; place an order using a credit card; keep up-to-date on the latest product promotions and pricing available on your contract; check the status and view product/price information - all from your desktop PC. Visit http://www.country/eng/solutions/pub_sector.html

Ordering Option

For your convenience, simply fill out your request on the customer purchase order and send it to 800-825-2300. Your order will be promptly handled, and you can call a Customer Service Representative to confirm your order.

Personalized Telesales

To provide more personalized service to you, our telephone sales and order administration representatives are assigned by territory. This ensures a dedicated government, education, or medical sales team every time you call - giving you added value by letting you establish personal relationships with representatives who know your product as well as your special terms and delivery requirements. To check product availability, and other related questions, call your Telesales Representative.

Order Accuracy

To ensure accurate and timely processing of your order, please verify that your purchase order includes the following information:

- o Billing address.
- o Shipping address.
- o Product number, description, and price.
- o Quantity and unit of choice.
- o Contact name, phone number and email address.
- o Delivery requirements.
- o Requested delivery date.
- o Requested and named purchaser.
- o Hewlett-Packard must be listed as the vendor.

Purchase Order forms are available at these links - http://www.hp.com/country/eng/solutions/pub_sector.html / K12 (State / Fed) - http://gem.compaq.com/gemstore/sites/downloads/SLED_PO_Template.pdf / 19 - http://gem.compaq.com/gemstore/sites/downloads/FED_PO_Template_Form_1449.pdf

Tax-Exempt Certificate

All tax-exempt customers require a tax-exempt certificate on file with Hewlett-Packard to avoid having sales tax added to their invoice. This certificate is required only once: the first time you are ordering for the first time, please include with your order or account application.

Free Configuration

When you order through Public Sector, you become eligible for configuration of Hewlett-Packard hardware options and upgrades to your purchase order. To request this service, clearly state on your purchase order which options and upgrades you would like installed and list each configuration item. Once a purchase order is placed, in-stock items require 2-4 business days for installation.

HP Credit

Hewlett-Packard offers financing options for your agency purchase or lease HP solutions. To inquire more about a customized financial solution, contact your account representative.

Order Lead Time

All orders are scheduled to ship on a first in first out basis. Orders are shipped within seven days of receipt provided the information has been properly included on your purchase order. (Remember that ship complete orders can be delayed if items are not currently in stock.) To inquire about the status of your order, you can either log on to http://www.hp.com/country/eng/solutions/pub_sector.html or call your corresponding Customer Service Representative.

Returns

A Return Material Authorization (RMA) number (RMA) is required for all returns to be processed. Returns may be requested within 30 days of shipment. Please contact your Customer Service Representative in order to have an RMA assigned. Please have a copy of the packing slip available when returning items.

Customer Support

For more information on Public Sector Sales, contact your account representative. **Phone Ed: 877-480-4433** **State & Local: 888-202-4682**



PRICING QUOTATION
Quote # 14743-

October 2007
Product Sales for

John Crawford
Northwestern State University

Contract: NATIONAL EDUCATION PRICELIST (EDUWEB)

Product is subject to change without notice. The prices in this quotation are valid for 30 days from the date of purchase. Please refer to the quote number and contract from this quote on the corresponding AL AND PROPRIETARY INFORMATION. DO NOT SHARE.

Item	Description	Qty.	Unit Price	Extended
1.	Smart 400 experiments with ease and flexibility and ultra-compact, it lets you take your outside the classroom among four different data capture the data you want and export it to the graphing calculator for in-depth analysis	20	\$100.00	\$2,000.00
2.	Below HP MCL Mid Grade Science Solution	20	\$850.00	\$17,000.00
3.	A Graphing Calculator	20	\$80.00	\$1,600.00
SUB TOTAL :				\$20,600.00

TOTAL : \$20,600.00

GET THE WARRANTY

If you want to protect against technology obsolescence. Lease these HP products with a 36-month lease for as little as \$661.26 per month. At the end of the lease, send the equipment back to HP or upgrade to new technology or purchase the equipment at its fair market value.

GET THE BEST FINANCIAL SERVICES

For more information, contact the HP Financial Services Company at 1-888-277-5942 and talk to a sales representative who specializes in supporting government and education entities.

Note: Please link to "URL" for more information www.hp.com/go/specificwarrantyinfo.
Sales tax is FOB Destination.



PRICE QUOTE
 Quote # 4147

October 14, 2009
 Price valid until 10/15/09

John Crawford
 Northwestern State University

Contract: NATIONAL EDUCATION PRICELIST (EDUWEB)

Product description
 30 day purchase
 CONFIDENTIAL

is subject to change without notice. The prices in this quotation are valid for the quote number and contract from this quote on the corresponding CONFIDENTIAL INFORMATION. DO NOT SHARE.

Item description
 * 1 year lease commencing on or before 11/25/2009 with a term of 36 months and a fair market value of the lease term. This and other leasing and financing options are available through the HP Financial Services Company (HPFSC) or one of its affiliates to qualified education and state and local government agencies. Lease requires credit approval and execution of standard HPFSC documentation. Fees and taxes apply. Rates and payments are subject to change at any time without notice. This quote is for Federal governmental agencies (subject to a \$50,000 minimum) are available for purchase.

Description	Qty.	Unit Price	Extended
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lease commencing on or before 11/25/2009 with a term of 36 months and a fair market value of the lease term. This and other leasing and financing options are available through the HP Financial Services Company (HPFSC) or one of its affiliates to qualified education and state and local government agencies. Lease requires credit approval and execution of standard HPFSC documentation. Fees and taxes apply. Rates and payments are subject to change at any time without notice. This quote is for Federal governmental agencies (subject to a \$50,000 minimum) are available for purchase.

Comments

HP Purchase Orders must be endorsed to HP with the following:

Rev # 10081436
 Log # 10081436
 Item # 10081436

HP Part # 10081436
 HP URL

Shipping/handling fee*
 Any of the following that apply; contract number, big deal number on the P.O.*
 Reference to your completed purchase order*
 If your order and your school or agency is tax exempt, please attach tax certificate to the P.O.*

10081436

Shipping/handling fee*
 Any of the following that apply; contract number, big deal number on the P.O.*
 Reference to your completed purchase order*
 If your order and your school or agency is tax exempt, please attach tax certificate to the P.O.*

Note: For sales tax information, please link to "URL" for more information www.hp.com/go/specificwarrantyinfo.
 FOB Destination.



Public Sector Sales

October 30, 2009

Dear John Crawford,

Thank you for your recent interest in Hewlett-Packard Public Sector Sales. Award-winning Hewlett-Packard products are designed to deliver high-performance technology, powerful networking and legendary Hewlett-Packard quality - all at a value that your budget demands. From handheld PCs to Servers, Hewlett-Packard provides a single resource for complete solutions that meet all your computing needs. You can rely on Hewlett-Packard for the performance, uptime, and efficiency you need to keep your agency running smoothly and hassle-free. Every Hewlett-Packard product is designed and tested to provide industry-standard compatibility and investment protection. And, with special maintenance services, easy ordering and flexible financing, Hewlett-Packard makes buying the right solution for your organization easier and more convenient than ever.

Attached is the price quotation you requested. When submitting a purchase order directly to Hewlett-Packard, please be certain to include the requested information on the Ordering Information page attached to this quotation. Including the necessary information will ensure the accurate and timely processing of your order through Hewlett-Packard Public Sector. You may order online at http://welcome.hp.com/country/us/eng/solutions/pub_sector.html or fax in your purchase order at 800-875-2325.

- Please reference this contract: HP Standard Single Order terms and conditions.

- If you or your customer has another valid agreement with HP, this quotation is governed by HP's Standard Single Order terms and conditions. A copy of these terms can be found on-line or can be requested from your Customer Representative or Sales representatives. All orders must reference this HP quotation for acceptance. No other terms or conditions shall apply.

- Third party items that may be included in this quote are covered under the terms of the manufacturer warranty, not HP's warranty. This quotation may contain open market products which are sold in accordance with HP's Standard Terms and Conditions.

If you have any questions regarding this quotation or need any other assistance, please contact your Public Sector sales representative.

Sincerely,

Kip [Name] for

Inside Sales Representative



Public Sector Sales

Ordering Information

It's never been easier to place your direct orders with Hewlett-Packard. Now you can have fast, accurate service with special options designed to personalize your order and expedite your shipments with higher levels of accuracy. Ordering Hewlett-Packard products is as simple as picking up the phone, using our online ordering machine, or logging onto the Hewlett-Packard Public Sector website at http://hwp.com/country/us/eng/solutions/pub_sector.html

Ordering

At the Hewlett-Packard Online Store, you can create quotes with real-time pricing; place an order using a credit card or purchase order, keep up-to-date on the latest product promotions and pricing available on your contract, track your order status and view product/price information - all from your desktop PC. Visit http://hwp.com/country/us/eng/solutions/pub_sector.html

Ordering is convenient, too. Simply fill out your request on the customer purchase order and send it to 800-441-3299. Your order will be promptly handled, and you can call a Customer Service Representative to confirm your order.

Telesales

To provide personalized service to you, our telephone sales and order administration representatives are assigned by territory. This ensures you reach a dedicated government, education, or medical sales team every time you call - giving you added value by letting you build personal relationships with representatives who know your product as well as your special terms and delivery requirements. For more information, check product availability, and other related questions, call your Telesales Representative.

Ordering

To ensure the timely processing of your order, please verify that your purchase order includes the following information:

- o Company name,
- o Company address,
- o Company phone number,
- o Product description, and price,
- o Quantity,
- o Delivery date,
- o Delivery phone number, and email address,
- o Delivery requirements
- o Vendor name
- o Authorized purchaser

o The name of the Hewlett-Packard vendor must be listed as the vendor.

o Purchase Order forms are available at these links -

- o Government / K12 / Higher Education - http://gem.compaq.com/gemstore/sites/downloads/SLED_PO_Template.pdf
- o Federal - http://hwp.com/country/us/eng/solutions/pub_sector/sites/downloads/FED_PO_Template_Form_1449.pdf

Tax-Exempt

All tax-exempt orders require a tax-exempt certificate on file with Hewlett-Packard to avoid having sales tax added to their invoice. This certificate must be provided only once. If you are ordering for the first time, please include with your order or account application.

Free Configuration Options (excludes non-configure to order IPG product)

When you purchase a Hewlett-Packard product through the Public Sector, you become eligible for configuration of Hewlett-Packard hardware options and upgrades. To request this feature, clearly state on your purchase order which options and upgrades you would like installed and list each option and upgrade. In-stock items require 2-4 business days for installation.

HP Credit

HP Credit financing options can help you purchase or lease HP solutions. To inquire more about a customized financial solution, please contact your account manager or sales representative.

Ordering

All orders are scheduled to ship on a first in first out basis. Orders are shipped within seven days of receipt of payment. Please check the status of your order if you have not received your order. (Remember that ship complete orders are not available in stock.) To inquire about the status of your order, you can either log on to http://hwp.com/country/us/eng/solutions/pub_sector.html or call your corresponding Customer Service Representative.

Product

All returns require a Return Merchandise Authorization (RMA) number. Returns may be requested within 30 days of shipment. Please have a copy of the packing slip available when you return the product. Contact your Customer Service Representative in order to have an RMA assigned.

Contact Us - Public Sector Sales

For more information, please contact your account manager or sales representative. **Phone Ed: 877-480-4433 State & Local: 888-202-4682**

PRO QUOTATION

Quote Number: **4342100**

Oct 2 2009

John Crawford

Prepared by: **Hans Taylor**

Contract: NATIONAL EDUCATION PRICELIST (EDUWEB)

Product availability and product description is subject to change without notice. The prices in this quotation are valid for 30 days from the date above. Please include the quote number and contract from this quote on the corresponding purchase order. **CONFIDENTIAL AND PROPRIETARY INFORMATION. DO NOT SHARE.**

Item	Description	Qty.	Unit Price	Extended
1.	HP 3A HP Smart 400 Perfect for experiments with ease and flexibility Light and ultra-compact, it lets you take your experiments outside the classroom Easy to use - four different data capture modes Select the data you want and export it to the HP graphing calculator for in-depth analysis	15	\$100.00	\$1,500.00
2.	HP 3A HP Graphing Calculator	15	\$80.00	\$1,200.00
3.	HP 3A HP Student Solutions Book Mid Grade Math Solution	15	\$520.00	\$7,800.00
SUB TOTAL :				\$10,500.00

TOTAL PRICE : \$10,500.00

OPTIONAL SERVICES FOR YOUR LEASE

Protect your investment against technology obsolescence. Lease these HP products with a monthly fee as little as \$340.10 per month. At the end of the lease, send the equipment back to HP Financial Services and upgrade to new technology or purchase the equipment at its fair market value.

OPTIONAL SERVICES WITH HP FINANCIAL SERVICES

For more information, call the HP Financial Services Company at 1-888-277-5942 and talk to a representative who specializes in supporting government and education entities.

See the HP website for warranty information. Please click to "URL" for more information www.hp.com/go/specificwarrantyinfo. See the HP website for more information. HP is a Best Buy Destination.

17

PRODUCTION QUOTATION

Quote Number: 434219

John Crawford

October
Printed for: Hans Taylor

Contract: NATIONAL EDUCATION PRICELIST (EDUWEB)

Product description is subject to change without notice. The prices in this quotation are valid for 30 days from the date above. Please refer to the quote number and contract from this quote on the corresponding purchase order. **CONFIDENTIAL AND PROPRIETARY INFORMATION. DO NOT SHARE.**

Qty.	Unit Price	Extended
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* Payment amount is based on the lease option at the time of purchase. Standard Finance Lease (SFL) is available for U.S. customers. Fees and charges apply. Rates and payments are subject to change at any time. Federal governmental agencies (subject to a \$50,000 minimum) are eligible for a special financing program commencing on or before 11/29/2009 with a term of 36 months and a fair market value guarantee. This and other leasing and financing options are available through the HP Financial Services Company (HPFSC) or one of its affiliates to qualified education and state and local government agencies. Approval and execution of standard HPFSC documentation. Fees and charges apply. Rates and payments are subject to change at any time.

C All HP Financial Services Lease Orders must be endorsed to HP with the following information:

Hewlett-Packard
10810
Omaha

Federal
DUNS

- Other information regarding handling fee*
- Please provide the following that apply; contract number, big deal number on the P.O.*
- Attach a copy of this quotation to your completed purchase order*
- If your school or agency is tax exempt, please attach a copy of your tax exemption certificate to the P.O.*

Technical specifications:

HP Stream Smart 400 4-port Data Streamer, Mobile Calculating Lab.

State contract information:

Mr. Kip Tyller, 1-800-277-8988 ext. 7719071 (his desk)

Or general Education sales dept. 1-800-727-2472

Vendor information

Hewlett-Packard Company

3000 Hanover Street
Palo Alto, CA 94304-1185 USA

Phone: (650) 857-1501

Fax: (650) 857-5518

Open between 8:00 a.m. and 5:00 p.m. Pacific Time, Monday – Friday

http://welcome.hp.com/country/us/en/contact/office_locs.html

Customer Support Phone: 877.266.4066 E-mail: info@fourier-sys.com

Technical Support Phone: 866.771.NOVA E-mail: support@fourier-sys.com

Description:

Perform real-time data streaming

Collect data from up to four sensors

Easily collect and display data points in real time at up to 5,500 samples/second!

Set up quickly and easily

Connect the HP StreamSmart 400 to the HP 39gs graphing calculator and one of the selected Fourier sensors

Save class time with virtually no set-up or experiment trial runs - Just plug in, turn on and go

Perform your experiments with ease and flexibility

Lightweight and ultra compact

A portable lab - Ideal for experiments in the classroom or in the field

Rate based on one port in use. Rates may vary based on number and type of sensor.

Quantity: 20

UP - \$450.00 each

Total 20 x \$450.00 = \$9,000.00
purchase



HP StreamSmart 400 4-port Data Streamer



The HP StreamSmart 400 helps math and science students visualize experiment results by streaming data in real time. Just plug it into the HP 39gs or 40gs Graphing Calculator and a probe or sensor, and start streaming data.

Ideal for classroom teaching of Math, Science, Pre-Algebra, Algebra, Trigonometry/Pre-Calculus, Calculus, Statistics, Earth Science, Environmental Science, Physical Science, Physics, Biology and Chemistry

PERFORM REAL-TIME DATA STREAMING

- Collect data from up to four probes
- Easily collect data points at up to 5,700 samples/second¹
- Obtain the optimal view of the data stream in real time

SET UP QUICKLY AND EASILY

- Connect to the HP 39/40gs Graphing Calculator and one of many Fourier sensors²
- Save class time with virtually no setup or experiment trial runs

PERFORM YOUR EXPERIMENTS WITH EASE AND FLEXIBILITY

- Lightweight and ultra-compact
- Easily choose among four different data capture modes
- Select just the data you want to export

HP StreamSmart 400



Attach either an HP 39gs or 40gs graphing calculator and up to 4 Fourier sensors² to create the HP Mobile Calculating Lab (MCL)

The HP StreamSmart 400 lets students experiment and collect data with ease. Designed specifically for math and science classrooms, it helps students visualize experimental results immediately by streaming data in real time from real-world probes and sensors.

Feature highlights

- Capture up to four streams of data simultaneously and in real time
- Easily collect data points at rates up to 5,700 samples per second¹
- Instantly identifies probe or sensor and selects unit of measurement and optimal scaling
- Zoom in or out on the data streams in real time
- Calculator Aplet supports data streaming, data logging, selection of events, and events with entry
- Small and ultra-portable

- Export selected data to the 39/40gs graphing calculator for analysis
- StreamSmart calculator Aplet works seamlessly with the statistics calculator Aplet
- Mini-USB port with optional virtual calculator software and USB cable allows for PC connectivity for classroom tutorials and presentations
- Designed for use with the HP 39/40gs Graphing Calculator and Fourier² measurement probes and sensors (motion, sound, temperature, light, etc.)

HP Quality and Support

- Rely on HP quality and award-winning support—online and by phone
- Get the most from your calculator, visit www.hp.com/calculators for online tutorials



Specifications

Part Number	F2235AA
Ideal for	Math, Science, Pre-Algebra, Algebra, Trigonometry/Pre-Calculus, Calculus, Statistics, Earth Science, Environmental Science, Physical Science, Physics, Biology and Chemistry
Channels	4 x 8-pin mini-DIN ports
Supported Calculators	HP 39gs Graphing Calculator HP 40gs Graphing Calculator
Supported Probes	40+ probes and sensors from Fourier ²
Connectivity	Mini-Serial cable (attached): connects to HP 39gs/40gs graphing calculator Mini-USB port: connects to Windows-based PC (XP, Vista)
Stream rate	Up to 5,700 samples/sec maximum real time rate ¹
Power	1 x 9V DC battery
Features	LCD activity indicator light All ports accept either digital or analog probes or sensors Plug-and-play operation on compatible Fourier probes
Software	HP Aplet software: Captures 1-4 data streams simultaneously and exports data for analysis in the calculator statistics Aplet, with 9 fit models and summary statistics HP Calculator software: Virtual HP 39gs/40gs calculator on your PC (Windows XP, Vista)
Weight	150 g (5.3 oz)
Size (L x W x D)	10 x 8.7 x 2.4 cm (3.94 x 3.43 x 0.94 in)
Material	Top cabinet and base: ABS Plastic
What's in the Box	HP StreamSmart 400, 9V battery, user manual, mini-serial cable (attached), CD-ROM with HP calculator software
Warranty	1 year (may vary by region)

¹ Rate based on one port in use. Rates may vary based on number and type of sensor

² Information on Fourier probes and sensors can be found at: www.Fourier-sys.com

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HP Mobile Calculating Lab Solutions Bring Math and Science Experiments to Life

The HP Mobile Calculating Lab solutions* enable middle and high school math and science students to better connect mathematical formulas to everyday physical phenomena by easily collecting and analyzing real-world data in real time. The Mobile Calculating Lab (MCL) solutions are composed of a HP 39gs or 40gs Graphing Calculator, the HP StreamSmart 400, a variety of Fourier scientific sensors and probes, as well as calculator presentation software and classroom instruction materials. The sensors capture physical data such as temperature, light or sound, and the HP StreamSmart 400, which is a four-port data streamer, translates the probe signals into numerical data.

*Solutions work with Fourier sensors

- » View the MCL in Action!
- » Click here to get more info on the MCL solution

Mobile Calculating Lab Details

Perform real-time data streaming

- Easily collects data points at up to 5,000 samples per second
- See a continuous stream of data and pan, zoom in and capture datasets as they happen

Easily set up for student experience

- Can collect data from up to four probes simultaneously for more complex experiments. All ports connect to both analog and digital probes

Conduct experiments in and out of the classroom

- No need to carry full-size notebook PC

Information on Fourier probes and sensors can be found at: www.fourier-sys.com
 » HP MCL product datasheet (PDF)

More about the MCL

- » MCL Video
- » FAQ (PDF)
- » HP StreamSmart 400
- » Thoughts from Wing Cheung, HP Calculator General Manager, on giving students the tools to meet the earth's environmental challenges (PDF)
- » View the MCL Solution Demo

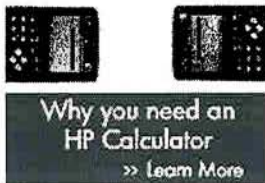
**Buy Online** » 

- » View the Mobile Calculating Lab demo today

Available Categories



- » Middle School Science Solution



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HP StreamSmart 400 - Overview and Features

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Overview

The powerful, easy-to-use HP StreamSmart 400 lets students truly experiment and collect data with ease. Designed specifically for math and science classrooms, it helps students visualize experimental results immediately by streaming data in real time from real-world probes and sensors. Save time on experiment setup – just connect the HP 39gs or 40gs Graphing Calculator and a probe or sensor, and start streaming data.

Features

Perform real-time data streaming

- Collect data from up to four probes simultaneously
- Easily collect data points at up to 5,700 samples/second
- Obtain the optimal view of the data stream in real time – speed up, slow down, zoom in or out

Set up quickly and easily

- Simply connect the HP StreamSmart 400 to the HP 39/40gs Graphing Calculator and one of many Fourier sensors (motion, sound, temperature and more) and you'll instantly see an incoming stream of data
- Save class time with virtually no setup or experiment trial runs

Perform your experiments with ease and flexibility

- Lightweight and ultra-compact, it lets you take your experiments outside the classroom
- Easily choose among four different data capture modes
- Select just the data you want and export it to the HP 39/40gs graphing calculator for in-depth analysis

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production of and does not endorse this product. For more information, go to www.act.org. AP Calculus requires a graphing calculator. Any scientific or graphing calculator (Excludes models with QWERTY (i.e. typewriter) keyboards, electronic writing pads, and pen-input/stylus-driven devices) is permitted for the following College Board tests: AP Chemistry, AP Physics, AP Statistics (a graphing calculator with statistical capabilities is expected), PSAT/NMSQT, SAT® Reasoning and SAT® Subject Tests™ in Mathematics Level 1 and Level 2. For more information go to www.collegeboard.com. Policies are subject to change. AP® and SAT® are registered trademarks of the College Board. PSAT/NMSQT® is a registered trademark of both the College Board and National Merit Scholarship Corporation which were not involved in the production of and do not endorse this product.

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Reviews dated from 9/1/09 – 10/15/09 may have been part of a sweepstakes submission.

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COLLEGE OF SCIENCE & TECHNOLOGY
OFFICE OF THE DEAN



October 22, 2009

Letter of Support for Dr. A. Ludu concerning his Student Technology Fee Grant Application
2009-2010

I am writing to express my support for the acquisition of 15-20 sets of "HP Mobile Calculator Lab" for the students taking the orientation classes for chemistry and physics at the Department of Chemistry and Physics.

As Dean of the College of Science and Technology I am committed to help and support any acquisition that improves the quality and relevance of teaching for the orientation classes.

The mobile calculator kits represent a very good solution, designed specifically for science orientation courses, that will allow our students to visualize experimental results immediately by streaming data in real time from a variety of real-world probes and sensors. These kits are designed for hands-on in-class experiments and they save time by minimizing experimental setup – just plug it in and go! The kits will empower our potential chemistry/physics students with physical experiences of modeling and with discovery of the physical laws that govern matter. Improving the hands-on technology resources for the PHYS/CHEM orientation classes is among the most desirable process-route going to be useful for the improvement of science education at NSU. The project is also cost-effective.

I look forward to hearing that you have been successful in obtaining support.
Sincerely,

Austin Temple, Ph. D.
Dean College of Science and Technology
Northwestern State University



Provost & Vice President for Academic Affairs

Telephone (318) 357-5361
FAX (318) 357-4517
E-mail vpaa@nsula.edu
www.nsula.edu/provost/

Northwestern State University
Natchitoches, Louisiana 71497

A Member of the University
of Louisiana System

October 28, 2009

Letter of Support for Dr. A. Ludu/Chemistry and Physics concerning his Student Technology
Fee Grant Application 2009-2010

I express my support for the acquisition of a number of mobile stations for the hands-on study of PHYSICS and CHEMISTRY in the orientation classes PHYS-10101, and CHEM-1010 at the Department of Chemistry and Physics. "HP Mobile Calculator Lab" stations represent a very good technological tool designed for our potential physics and chemistry students. This equipment will help them to visualize immediately (in class or out on campus) how to interpret and analyze streaming of data in real time from real-world situations, by using state of the art sensors and interfaces. These kits, specially designed to minimize the time needed for any setup (just plug it in and go), will empower our students with scientific experience of modeling and discovery of the laws that govern natural phenomena. Improving the hands-on technology resources for the PHYS/CHEM orientation classes is a remarkable track for the improvement of science education need in our university.

I look forward to hear that this application obtained support.

Sincerely,

Dr. Lisa Abney
Acting Provost &
Vice President
Academic and Student Affairs