DATE: September 1, 2017
TO: Computation Advisory Committee
FROM: Jennifer Pavlovec, Chief Fiscal Officer
RE: Fiscal Year 2017 Computation Advisory Committee Report

On behalf of the College of Engineering, I am sending you this requested summary report of all student technology fee income, expenditures and carryover funds.

A. Summary Page:
A summary page is attached to this email. It provides an overview of all College of Engineering technology fees including: carry forward from FY16 ($0.8M); funds received ($3.3M); expended ($3.0M); and carry forward to FY18 ($1.1M).

B. Carryover Totals:
The June 30, 2017 carry forward cash balance in the College’s technology fee accounts was $1,079,994 as compared to $800,904 one year ago. These funds are available to our department chairs to spend in support of student learning. The College’s approach to the management of financial resources involves both local and central decision making to meet the needs of the student population. Department chairs have the flexibility to use as needed. They formulate plans and propose expenditures as they make decisions throughout the year.

C. Current Year Narrative:
The College had allocated technology fee revenue proportionally to the academic departments based on the enrollment of the students and the amount of instruction taught. This has been the practice beginning in FY11, and provides an incentive for the recruitment, retention, and academic success of students.

The FY17 student technology fee income allocated to the college was estimated to be $3.1 million. A portion “off the top” was used to support central computing that benefits the entire college. The remaining was allocated to the academic departments. The intention and philosophy here is to reduce administrative overhead and improve the ability of departments to allocate resources under local control for the benefit of student learning. Actual revenue approximated the estimate. The majority of expenses paid from all of these funds were in the ISU object code category for “supplies”. The attached summary page shows the allocations made to each department and project including college-wide operational expenses, computer lab upgrades, and a software portfolio.

The estimated Fall 2017 enrollment is anticipated to exceed 9,600 engineering students. These student technology fees are used to reach the college’s highest priority of improving the quality of the student learning experience including improving the quality and quantity of space needed to achieve this aim.
D. Expenses requiring CAC Approval:
Attached is a summary of the pre-approved unusual expenses. In addition to the CAC annual audit process, we have reviewed e-Data and believe this complies with the CAC reporting guidelines.

Thank you.

CC: S Rajala, S Sundararajan, A Somani, M Wickham, L Dillavou
### CAC Allocations and Expenditure Summary

#### FY2017 Allocations

<table>
<thead>
<tr>
<th>Account Name</th>
<th>Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSE - STUDENT TECHNOLOGY FEES</td>
<td>3,316,837.00</td>
</tr>
<tr>
<td>FY2016 Carryover</td>
<td>1,058,361.50</td>
</tr>
<tr>
<td>Project Commitments yet to be realized</td>
<td>860,824.04</td>
</tr>
<tr>
<td>Total Available - FY2017</td>
<td>4,217,741.54</td>
</tr>
</tbody>
</table>

#### FY2017 Allocations Thru Fiscal Period Jun 2017

<table>
<thead>
<tr>
<th>Resource Unit</th>
<th>Account</th>
<th>Account Name</th>
<th>Receipts</th>
<th>Transfers In</th>
<th>Transfers Out</th>
<th>Expenditures</th>
<th>Current Cash Balance</th>
<th>Encumbrance</th>
<th>Current Free Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>3,316,837.00</td>
<td>146,034.94</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>CDE - STUDENT TECHNOLOGY FEES</td>
<td>409,000.00</td>
<td>EPS - STUDENT TECHNOLOGY FEES</td>
<td>32,313.13</td>
<td>32,313.13</td>
<td>16,666.31</td>
<td>16,666.31</td>
<td>3,591.24</td>
<td>800.00</td>
<td>0.00</td>
</tr>
<tr>
<td>CBE - STUDENT TECHNOLOGY FEES</td>
<td>3,300.00</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>2,514.62</td>
<td>2,514.62</td>
<td>0.00</td>
<td>0.00</td>
<td>2,514.62</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>CBE - STUDENT TECHNOLOGY FEES</td>
<td>72,317.88</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>192,622.00</td>
<td>192,622.00</td>
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<td>192,622.00</td>
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<tr>
<td>CBE - STUDENT TECHNOLOGY FEES</td>
<td>39,705.61</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>402,000.00</td>
<td>402,000.00</td>
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<td>402,000.00</td>
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<tr>
<td>CBE - STUDENT TECHNOLOGY FEES</td>
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<td>ENTS - STF - COE LAB OPERATIONS</td>
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<td>270,000.00</td>
<td>0.00</td>
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<tr>
<td>CBE - STUDENT TECHNOLOGY FEES</td>
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<td>ENTS - STF - COE LAB OPERATIONS</td>
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<td>167,509.00</td>
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<tr>
<td>IMSE - STUDENT TECHNOLOGY FEES</td>
<td>4,302.84</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>467,472.04</td>
<td>467,472.04</td>
<td>0.00</td>
<td>0.00</td>
<td>467,472.04</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>IMSE - STUDENT TECHNOLOGY FEES</td>
<td>2,945.85</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>299,500.00</td>
<td>299,500.00</td>
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<td>0.00</td>
<td>299,500.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>IMSE - STUDENT TECHNOLOGY FEES</td>
<td>43,927.67</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>397,300.00</td>
<td>397,300.00</td>
<td>0.00</td>
<td>0.00</td>
<td>397,300.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>IMSE - STUDENT TECHNOLOGY FEES</td>
<td>23,138.49</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>9,602.88</td>
<td>9,602.88</td>
<td>0.00</td>
<td>0.00</td>
<td>9,602.88</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>IMSE - STUDENT TECHNOLOGY FEES</td>
<td>43,927.67</td>
<td>ENTS - STF - COE LAB OPERATIONS</td>
<td>263,408.61</td>
<td>263,408.61</td>
<td>0.00</td>
<td>0.00</td>
<td>263,408.61</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

#### Total Available - FY2017

| FY2016 Carryover                                 | 154,931.85 | Project Commitments yet to be realized          | 154,931.85 |

#### Total Expenditures (real and projected)

<table>
<thead>
<tr>
<th>CAC Allocations and Expenditure Summary</th>
<th>Thru Fiscal Period Jun 2017</th>
<th>FY2016 Carryover</th>
<th>Project Commitments yet to be realized</th>
<th>Total Expenditures</th>
</tr>
</thead>
</table>

- **Yearly Beginning Cash Balance**: 800,904
- **Receipts**: 634,316,837
- **Transfers In**: 217,057
- **Transfers Out**: 578,551
- **Expenditures**: 131,499
- **Benefits**: 199,967
- **Salaries**: 95
- **Wages**: 95
- **Supplies**: 419,436,00
- **Travel and Transportation**: 241,517,29
- **Equipment & Collections**: 19,107
- **MISC Expenses**: 2,654.28
- **Other Capital Assets**: 12.40
- **Total Available - FY2017**: 263,408.61
- **Encumbrance**: 0.00
- **Current Free Balance**: 0.00

#### Current Cash Balance

- **FY2017 Allocations**: 800,904
- **Expenditure**: 634,316,837
- **Transfer**: 217,057
- **Benefits**: 578,551
- **Salaries**: 131,499
- **Wages**: 199,967
- **Supplies**: 419,436
- **Travel and Transportation**: 241,517
- **Equipment & Collections**: 19
- **MISC Expenses**: 2,654
- **Other Capital Assets**: 12
- **Total Available**: 263,408.61
- **Encumbrance**: 0.00
- **Current Free Balance**: 0.00
## CAC Requests for Advance Approval of Unusual Expenses

*Thru Fiscal Period Jun 2017*

<table>
<thead>
<tr>
<th>Resource Unit</th>
<th>Dept &amp; Location</th>
<th>Description</th>
<th>Total Project Cost</th>
<th>CAC Funds Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>ME; 335 Fluids Lab</td>
<td>Purchase two Armfield computer controlled wind tunnels for ME 335 Fluids Lab</td>
<td>124,182.00</td>
<td>124,182.00</td>
</tr>
<tr>
<td>CBE; Sweeney #1053</td>
<td>ARSST for ChE 426 course</td>
<td>35,500.00</td>
<td>35,500.00</td>
<td></td>
</tr>
<tr>
<td>CBE; Sweeney 2059</td>
<td>Spectrophotometer for ChE 325 &amp; 426</td>
<td>47,944.80</td>
<td>47,944.80</td>
<td></td>
</tr>
<tr>
<td>ME; 370 instrumentation lab</td>
<td>2 additional computer workbenches in the ME 370 instrumentation lab</td>
<td>3,677.80</td>
<td>3,677.80</td>
<td></td>
</tr>
<tr>
<td>ME; Black</td>
<td>42 seats of computing furniture; electrical outlets; and mobile device charges</td>
<td>30,041.87</td>
<td>30,041.87</td>
<td></td>
</tr>
<tr>
<td>ME, 1360 Hoover</td>
<td>Update furniture in 1360 Hoover ME 270 lab to handle increased enrollment and address accessibility and safety concerns</td>
<td>11,718.50</td>
<td>11,718.50</td>
<td></td>
</tr>
</tbody>
</table>

**Total** | 253,064.97 |
APPENDIX A

Request for advance approval of unusual* expenses

[*Categories of unusual expenses are listed in paragraph 2, Section III of the “Guidelines for Appropriate Expenditure of Income from the Student Technology Fee.”]

Category of unusual expense (from guidelines): This would be a hardware purchase. The wind tunnels are controlled by computers via USB and the computers collect data using NI LabVIEW software.

Projected Cost: $124,182.

Description: Purchase two Armfield computer controlled wind tunnels for ME 335 Fluids Lab

Date(s) of proposed expense: November 2016

Justification*: A purchase request for two computer controlled wind tunnels from Armfield has been submitted to accommodate the increased student load for the ME 335 Fluids Lab. We have purchased similar equipment for this lab in the past that compliments the LabVIEW software applications needed for data collection. This new request will be an expansion of lab equipment needed to accommodate a 25% increase in student load and compliment the small format we have established in this lab by replacing two 1960’s era outdated wind tunnels with modern computer controlled equipment. Since the new equipment needs to fit in a defined cell with other existing equipment, and the fact that they directly integrate with the existing LabVIEW computer software, this is the only source for that match. This equipment is the only source that will streamline three other experiments, which currently collect data in an archaic format that is not continuous or repeatable.

We purchased two of the Armfield wind tunnels in February of 2015 (ISU tag # 454130 and # 454131) with plans of purchasing four. The remaining two units were deferred due to funding. The class load has again increased and the need for the additional two units is now warranted. These machines are critical to instruction and are technology driven in application.

*(Please attach PIQ of employee if requesting greater than 50% of base salary support from CAC.)

Requested by: ___Nate Jensen_________

College approval: ________________________________
APPENDIX A

Request for advance approval of unusual* expenses

[*Categories of unusual expenses are listed in paragraph 2, Section III of the “Guidelines for Appropriate Expenditure of Income from the Student Technology Fee.”]

Department: Chemical and Biological Engineering (CBE)

Building/room location: Sweeney, Room 1053

Description: We request approval to purchase an experimental process unit to be used by students in our senior (ChE 426) required laboratory course. The item is an Advanced Reactive System Screening Tool (ARSST) that includes a computerized reactor system for studying heats of reaction and runaway reaction system.

Total Project Cost: $35,500 (see attached quote, Intermediate Package)

Category of unusual expense(s) within the project (see http://www.cio.iastate.edu/committees/cae/policies/expenditures_2011-2012.pdf):

Consulting CAC for purchase of major educational technology equipment (>25K)

Costs associated with these unusual expenses: $35,500

Date(s) of proposed expense: Spring, 2017 for installation and use starting Summer 2017

Justification*:

Purchase of ARSST will provide opportunity for students to study thermal runaway in reactor systems, which is an important component for reactor design and process safety requirements for chemical engineering degree.

*(Please attach PIQ of employee if requesting greater than 50% of base salary support from CAC.)

Requested by: Andrew C. Hillier, Chair of CBE

College approval: ____________________________
ARSST™ (ADVANCED REACTIVE SYSTEM SCREENING TOOL)

Background

Fauske & Associates, LLC’s (FAI) Advanced Reactive System Screening Tool™ (ARSST) is a low thermal inertia calorimeter used to obtain critical upset process design data. FAI offers the ARSST along with options for customization such as a high-pressure vessel and flow regime detector, as well as commonly used items such as test cells, heaters, glands and thermocouples. At FAI, we not only utilize the ARSST™ in our fully equipped hazards laboratory but we also manufacture and sell the calorimeter for use by our clients.

The ARSST™ is based on DIERS two-phase methodology which is recognized by OSHA as an example of good engineering practice. This easy-to-use device is also capable of generating low phi-factor data for DIERS vent sizing and is an excellent tool for industry as well as any university engineering lab for research or unit operation studies.

ARSST™ tests are used to model such upset scenarios as loss of cooling, loss of stirring, mischarge of reagents, mass-loaded upset, batch contamination and fire exposure heating. This easy to use and cost-effective calorimeter can quickly and safely identify potential reactive chemical hazards in the process industry. ARSST™ data yields critical experimental knowledge of the rates of temperature and pressure rise during a runaway reaction, thereby providing reliable energy and gas release rates which can be applied directly to full scale process conditions.

The ARSST™ typically utilizes a sample size of 5-10 grams in a lightweight glass test cell with a volume of approximately 10 ml. The test cell is outfitted with a belt heater (used to heat the sample through a preprogrammed temperature scan) and then installed in 350 ml containment vessel. Tests are typically run using open test cell methodology. In this test configuration, the test cell is vented to the containment vessel. Volatilization of the test sample is prevented by imposing an inert backpressure on the containment vessel.
Benefits

The ARSST™ enables users to quickly obtain reliable adiabatic data which can be used for a variety of safety applications including characterization of material compatibility, thermal stability and reaction chemistry. Test data includes adiabatic rates of temperature and pressure change which, due to the low thermal inertia, can be directly applied to process scale to determine relief vent sizes, quench tank designs and other relief system design parameters related to process safety management.

Features

- User friendly
- Easy setup for fast test turnaround
- Quickly screen new and existing processes for thermal hazards
- Scanning and isothermal modes
- Reliable results for thermal hazard assessment
- Open or closed cell testing (obtain vapor pressure data from closed cell testing)
- Small sample size
- Lightweight glass test cell with good mixing
- Compatible with Flow Regime Detector (FRED) equipment for vent sizing applications (FRED distinguishes between foamy and non-foamy behavior)

Applications

- Obtain complete chemical systems data:
  - Critical temperature
  - Kinetic parameters
- Estimate process safety parameters including:
  - Onset temperature
  - Temperature & pressure rise rates
  - Adiabatic temperature rise
  - Heat of reaction and mixing
  - Tempering temperature
  - Time to maximum rate (t\text{mr})
  - Self-accelerating decomposition temperature (SADT)
- Vent sizing
- Emergency relief system design
- Accommodates handling of energetics and pyrotechnics
We are pleased to offer you the following ARSST System quote for your consideration.

This quote is valid for 60 days from date of issue
We are pleased to offer you the following ARSST System quote for your consideration. The first page gives you a brief description of the ARSST System. The following pages give you a breakdown of the basic system with upgrade and consumable options. We have found that each user has specific needs, so we have broken the proposal into sections. This enables you to customize your unit based upon your specific needs and requirements. Please do not hesitate to call us if you require a customized quote.

**ARSST SYSTEM**

*The easy, reliable way to get directly scalable runaway rate data*

The ARSST is the product of extensive research into runaway chemical reactions and their impact on process system dynamics. The ARSST is designed to simplify the acquisition of data necessary for thermal hazards analysis, runaway reaction evaluations, and the proper size of pressure relief vents. The ARSST system can be applied to liquids or solids with high or low reaction rates, and it is appropriate for vapor, gaseous or hybrid systems. The measured temperature and pressure rate data can be directly applied to full-scale industrial processes.

**Unique cost-effective design that anyone can use**

The ARSST typically uses 5, 10 or 20 ml magnetically stirred samples contained in an open, well-insulated glass test cell. This configuration minimizes heat sink effects (phi = 1.04) and avoids the transient problems characteristic of a heavy wall sample holder. With a low phi factor essentially all the reaction heat goes to further heat the sample, so it is possible to detect other exotherms that result at elevated temperatures.

The ARSST is particularly well suited for gassy systems, in part because it avoids gas solubility issues associated with closed cell testing. The ARSST's unique design allows you to acquire reliable adiabatic pressure and temperature rate data that are difficult to obtain with other commercially available instruments. FAI's patented flow regime detector can distinguish between foamy and non-foamy behavior, and fire exposure heating rates up to 30ºC/min are easily simulated.

**Quick and Safe**

The product sample size (5-10 g) is large enough to be representative, yet small enough to reduce waste and minimize exposure risk. Tests are safely contained in a 350 ml stainless steel high pressure vessel.
**ARSST Features and Capabilities**

The new *ARSST* calorimeter control software keeps the best features of the original *ARSST*, but adds a number of significant improvements.

- A test summary file is automatically generated and can be updated throughout the test, providing electronic records of test set-up parameters, operator actions, and final conditions.
- Seven preset modes make test set-up a snap, and test parameters can be modified during a run.
- Faster data acquisition frequency provides improved resolution of rapid temperature or pressure events.
- Temperature measurement is expanded from –50°C to 700°C.
- The *ARSST* is now available with closed-cell and high phi-factor testing options.
- The new *ARSST* software is compatible with PCI architecture and Windows XP.
Standard ARSST Vessel

Containsment Vessel
- Material: 316 SS
- Volume: 350cc

Note: Ports are not shown in proper positions for illustration purposes. Test cell and heater assembly is shown without foil wrap for clarity.
## ARSST Hardware Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi-Factor:</td>
<td>Typically 1.05, depending on sample mass and heat capacity.</td>
</tr>
<tr>
<td>Test Cell:</td>
<td>Spherical, available in 5, 10, or 20 ml sizes</td>
</tr>
<tr>
<td>Test Cell Material:</td>
<td>Glass</td>
</tr>
<tr>
<td>Sample Size:</td>
<td>From a few grams up to 16 ml</td>
</tr>
<tr>
<td>Sample Type:</td>
<td>Liquids and solids</td>
</tr>
<tr>
<td>Agitation:</td>
<td>Magnetically stirred</td>
</tr>
<tr>
<td>Pressure Vessel:</td>
<td>350 ml for standard vessel</td>
</tr>
<tr>
<td></td>
<td>450 ml for high pressure vessel</td>
</tr>
<tr>
<td>Pressure Range:</td>
<td>FV to 500 psi (35 bar) for standard vessel</td>
</tr>
<tr>
<td></td>
<td>FV to 1000 psi (70 bar) for high pressure vessel</td>
</tr>
<tr>
<td>Pressure Balancing:</td>
<td>Manual balancing if using closed cell option</td>
</tr>
<tr>
<td>Temperature Range:</td>
<td>-50°C to 700°C</td>
</tr>
<tr>
<td>Temperature Tracking:</td>
<td>200°C/min at 200°C</td>
</tr>
<tr>
<td>Temperature Measurement:</td>
<td>Type K Thermocouples with 0.3°C resolution</td>
</tr>
<tr>
<td>Sample Temperature:</td>
<td>Measured directly in the sample</td>
</tr>
<tr>
<td>Usual Mode of Operation:</td>
<td>Thermal scan, typically 2°C/min</td>
</tr>
<tr>
<td>Available Scan Rates:</td>
<td>Up to 30°C/min</td>
</tr>
<tr>
<td>Exotherm Detection Sensitivity:</td>
<td>Typically 0.1°C/min</td>
</tr>
<tr>
<td>Flow Regime Detector:</td>
<td>Available option</td>
</tr>
<tr>
<td>Dosing:</td>
<td>Syringe, injection piston, or syringe pump</td>
</tr>
<tr>
<td>Data Logging Frequency:</td>
<td>Up to 1000 points per second</td>
</tr>
</tbody>
</table>
Advanced Reactive System Screening Tool ("ARSST" ™) System

A. The “Screening” Package Includes:  $28,275
   - ARSST Electronic Controller
   - ARSST Standard Containment Vessel (350ml “standard)
   - ARSST Cables
   - ARSST Calorimeter Control Software
   - ARSST Data Acquisition Software
   - ARSST Plotting Software
   - Dell PC
   - 17” Flat Screen Monitor
   - ARSST Users Manual

B. The Intermediate Package  $35,500
   This is the same as the Screening Package, but includes:
   - Dual Thermocouple option
   - ARSST Tool Kit

C. The Advanced Package  $46,750
   This is the same as the screening and intermediate package, but also includes
   - Addition vessel for quench and gas capture
   - Full consumable kit
   - On-Site Training for 3 days
   - 8 hours of phone consultation/support

ARSST Control Box, Standard ARSST Vessel, stirrer plate, and Flat Screen Monitor
**End User Certificate:**

**The Client/Buyer must submit a signed “End User Statement” certifying that the ARSST and all parts and consumables will be used by Iowa State University. And will not be sold or transferred to another party. A copy of the End User Statement is attached at the end of this quotation as Exhibit A.**

**Order Notes:**
1) All applicable taxes, duties, and fees are the responsibility of the client.
2) Order approval is subject to acceptance of the client’s statement of use for the equipment and documentation per U.S. Dept of Commerce guidelines.
3) Payment must be received by electronic transfer prior to the unit being shipped.

**Payment Terms:** Net 30

**Shipping Terms:** “ExWorks” (per Incoterms 2010)

**Order Details:** Delivery is usually 5-7 weeks after receipt of a purchase order and a Valid End User Certificate. Each ARSST System is custom made and thoroughly tested before shipment.

Each unit is CE rated

Shipping, Handling, & Insurance costs are not included in the pricing. All items are shipped from our main office in Burr Ridge, Illinois.

All items are manufactured in the USA.

**Contact:** Kris Fauske

*Telephone* (630) 887-5224  
*Fax* (630) 986-5481  
*E-mail* Kfauske@fauske.com

**Website:** www.Fauske.com

*THANKS for considering Fauske & Associates for your PROCESS SAFETY NEEDS*
ARSST System Options & Upgrades

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>Closed Cell Testing Start-up Kit (FAI Supplied Vessel) – FAI supplies High Pressure Vessel (450 ml).</td>
<td></td>
</tr>
<tr>
<td>Closed Test Cell Kit Includes:</td>
<td></td>
</tr>
<tr>
<td>- Modified vessel head with gland, Tubing Connectors, Ferrules, Long Neck Glass Test Cells (3 sizes), Heaters, Heater Belts (matched to test cell sizes), Foil (matched to test cell sizes) and Stir Bars, Insulation, Luer Lock to 1/8&quot; Elbow Fitting.</td>
<td></td>
</tr>
<tr>
<td>(Part #ARS-060)</td>
<td>$8,329.00</td>
</tr>
</tbody>
</table>

(2)  |       |
| Closed Cell Testing Start-up Kit (Customer Supplied Vessel) – Customer supplies High Pressure Vessel (450 ml). | |
| Closed Test Cell Kit Includes: | |
| - Modified vessel head with gland, Tubing Connectors, Ferrules, Long Neck Glass Test Cells (3 sizes), Heaters, Heater Belts (matched to test cell sizes), Foil (matched to test cell sizes) and Stir Bars, Insulation, Luer Lock to 1/8" Elbow Fitting. | |
| (Part #ARS-060A) | $4,795.00 |

(3)  |       |
| Flow Regime Detector – This patented option allows the ARSST operator to distinguish between "foamy" and "non-foamy" runaway reactions (includes starter kit). | |
| (Part #ARS-037) | $11,053.00 |

Consumables for Flow Regime Detector

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Item Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRD-001</td>
<td>ARSST Double Thermocouple Gland</td>
<td>$221.00</td>
</tr>
<tr>
<td>FRD-002</td>
<td>ARSST Double Heater Gland</td>
<td>$221.00</td>
</tr>
<tr>
<td>FRD-003</td>
<td>Phase Detector Heater Cable</td>
<td>$176.00</td>
</tr>
<tr>
<td>FRD-004</td>
<td>Splitter Thermocouple Cable (2 are required or initial order)</td>
<td>$184.00</td>
</tr>
<tr>
<td>FRD-005</td>
<td>Phase Detector – includes extension tube, immersion heater, TC1 and TC2</td>
<td>$663.00</td>
</tr>
</tbody>
</table>

(4)  |       |
| Dual Thermocouple Option – This option allows the ARSST operator to measure temperature in the vessel headspace area. This option is included in the "Deluxe Unit Package". | |
| (Part #ARS-037A) | $3,203.00 |
(5) **High Pressure Vessel Option (450 ml Vessel)** – This option allows the ARSST operator to work at higher pressures than the standard ARSST vessel (1000 psi versus 500 psi standard).

(Part #ARS-038) $5,126.00

(6) **Dual Containment Option** – Provides the ARSST operator with a second standard containment vessel for rotation of vessels to increase testing capabilities.

(Part #ARS-039) $4,229.00

(7) **Spare Parts and Consumables**

Below is a recommended spare parts and consumables package to run approximately 50 tests. An ARSST consultant would be happy to help customize your package.

<table>
<thead>
<tr>
<th>QTY.</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>COST EA.</th>
<th>COST (TOTAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ARS-001</td>
<td>Standard test cells (10 ml) with insulation, stir bars, and foil wrap (set of 10)</td>
<td>$267.00</td>
<td>$267.00</td>
</tr>
<tr>
<td>5</td>
<td>ARS-004</td>
<td>Bottom Heater with 3 Heater Belts</td>
<td>$98.00</td>
<td>$590.00</td>
</tr>
<tr>
<td>1</td>
<td>ARS-007</td>
<td>Single Thermocouple Gland</td>
<td>$167.00</td>
<td>$167.00</td>
</tr>
<tr>
<td>1</td>
<td>ARS-008</td>
<td>Double Thermocouple Gland</td>
<td>$200.00</td>
<td>$200.00</td>
</tr>
<tr>
<td>2</td>
<td>ARS-009</td>
<td>Heater Gland</td>
<td>$167.00</td>
<td>$334.00</td>
</tr>
<tr>
<td>2</td>
<td>ARS-016</td>
<td>Set of 2 Standard 304 SS Thermocouples</td>
<td>$127.00</td>
<td>$254.00</td>
</tr>
<tr>
<td>2</td>
<td>ARS-019</td>
<td>Set of 2 Standard Extension Tubes</td>
<td>$114.00</td>
<td>$228.00</td>
</tr>
<tr>
<td>2</td>
<td>ARS-024</td>
<td>Fill Tube Assembly without Valve for Standard 350 ml Vessel</td>
<td>$127.00</td>
<td>$254.00</td>
</tr>
<tr>
<td>1</td>
<td>ARS-026</td>
<td>Set of 2 Hastelloy C-276 Rupture Disks</td>
<td>$207.00</td>
<td>$207.00</td>
</tr>
<tr>
<td>2</td>
<td>ARS-028</td>
<td>Insulation Sheath</td>
<td>$121.00</td>
<td>$242.00</td>
</tr>
<tr>
<td>1</td>
<td>ARS-029</td>
<td>Set of 5 O-Rings</td>
<td>$33.00</td>
<td>$33.00</td>
</tr>
</tbody>
</table>

**Peripheral Equipment**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) <strong>Calibration Kit</strong> – Includes a thermocouple simulator, digital pressure gauge and all the necessary connections completely assembled and ready to use.</td>
<td>(Part #ARS-043) $1,891.00</td>
</tr>
<tr>
<td>(2) <strong>Standard Bench-Top Magnetic Stirrer</strong> – Variable RPM, 5&quot; x 7&quot; surface. (Please specify 110V or 220V)</td>
<td>(Part #ARS-044) $641.00</td>
</tr>
</tbody>
</table>
(3) **ARSST Tool Kit** – Contains all the tools you need for running ARSST tests.  
(Part #ARS-052) $577.00

(4) **High Pressure Nitrogen Kit** – Includes a high pressure nitrogen regulator with 15 ft. stainless steel Teflon-lined flexible hose and stainless steel isolation ball valve – completely assembled and ready to use.  
(Part #ARS-053) $1,290.00

(5) **Mechanical Relief Valve** – Attaches to ARSST vessel or regulation of containment back pressure.  
(Part #ARS-051) $442.00

(6) **High Pressure Injection Kit** – Stainless steel piston for performing injections against high pressures (up to 1000 psi). Available in the following sizes:  
  3.33 cc (Part #ARS-031), 6.66 cc (Part #ARS-032), 10 cc (Part #ARS-033)  
$750.00
Optional Software - PrEVent (Version 1.0)

The Practical Emergency Venting (PrEVent) software is designed to quickly and easily design and/or check process safety systems under postulated abnormal conditions. Applications include:

- **Runaway Reactions**

  *Gassy System*
  - Analytical solution yields ideal vent area as a function of overpressure.

  *Hybrid System*
  - Analytical solution yields ideal vent area as a function of overpressure
  - Transient solution provides time-dependent behavior for a given vent configuration.

  *Vapor System*
  - Perform fire exposure simulation
  - Model various types of relief behavior
  - All-vapor venting (complete disengagement)
  - All-liquid venting (bottom discharge)
  - Homogeneous-vessel venting (uniform froth)
  - Bubbly flow regime venting (foamy mixture)
  - Churn-flow regime venting (non-foamy mixture)

- **DIERS Relief System Sizing**
  Requires only a few key input parameters. Includes simple tailpipe and relief device analysis of tailpipe for rupture disk and relief valves.

- **Deflagration**
  Simulation of fast evolving flame fronts.

- **Fire Load**
  Performs fire exposure vent calculation. Requires only a few inputs.
Software Features

- Single User Interface for easy Scenario development all the way through calculation with immediate update of output values when changes are made in input variables.
- Each scenario, vessel and chemical can be separately or collectively saved for easy future access and use.
- Pull-down menus easily select plant vessel, relief devices and material properties.
- Ability to perform sensitivity analyses.
- Graphical output.
- Automatically generates reports in HTML format.
- On-line help is included with the program. "Mouse-over" help within the software provides input definitions for fillable fields.

Sample Screen Captures
**PrEVent Software Pricing**

Part #PREVENT (Single license Version 1.0) $8,625.00*

*Discounted with if purchased with an ARSST Unit.............$3,995

**PrEVent Support and Maintenance**

Your initial purchase includes a (1) year subscription for free IT support and upgrades from the time of purchase. Additional support and maintenance can be purchased.

- Part # PREVENT-MS1 [(1) year of support and maintenance] $860.00/license
- Part # PREVENT-MS3 [(3) years of support and maintenance] $2,190.00/license
- Part # PREVENT-MS5 [(5) years of support and maintenance] $3,000.00/license

**PrEVent Training Options**

- Part #PREVENT-TRN-OL (1/2 day on-line web and phone live training) $1,000.00
- Part #PREVENT-TRN-0S (One day on-site training at your facility) $2,000.00 plus travel expense at cost

Thank you for your interest in our *ARSST* system. We also offer different options to meet your budget requirements including:

- Refurbished Units (if available)
- Lease Options
- Lease to Own Options
- Contract Testing (we have a full service Thermal Hazards Testing Laboratory)

Please do not hesitate to contact us.
EXHIBIT A

END USER STATEMENT

(Please copy on your company's letterhead and have this statement signed and notarized by a legal representative prior to returning to Fauske & Associates, LLC.)

ULTIMATE CONSIGNEE:
(Who will be using the product? Please give a detailed description. Please include full name, address, telephone and fax numbers).

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Johnson Matthey Pharma Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td>USA</td>
</tr>
<tr>
<td>Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
<tr>
<td>Responsible Party:</td>
<td></td>
</tr>
</tbody>
</table>

INTERMEDIATE CONSIGNEE:
(Who is purchasing the product for the Ultimate Consignee? Please include full name, address, telephone and fax numbers).

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Johnson Matthey Pharma Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td>USA</td>
</tr>
<tr>
<td>Phone:</td>
<td></td>
</tr>
<tr>
<td>Fax:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td></td>
</tr>
<tr>
<td>Responsible Party:</td>
<td></td>
</tr>
</tbody>
</table>

** If any other parties will be involved in this project or application please list them as well.
END USE DESCRIPTION:
(Please include a detailed description of the following)
The nature of the business activities:

The nature and purpose of the activities or operations to be performed by the Fauske & Associates, LLC equipment being purchased:

END USER ACKNOWLEDGMENT:
Product will remain at Johnson Matthey Pharma Services (Company)’s location specified on letterhead and will not be resold or transferred without approval from Fauske & Associates, LLC. I acknowledge that these commodities, technology or software will be exported from the United States in accordance with the Export Administration Regulations and that diversion contrary to U.S. law is prohibited. Furthermore, I acknowledge that Fauske & Associates, LLC products will not be diverted to the following embargoed nations: Cuba, Iran, Sudan and Syria, or to a military end-use in China.

PLEASE INCLUDE THE NAME, TITLE, SIGNATURE, COMPANY NAME AND DATE OF THE INDIVIDUAL FILLING OUT THIS INFORMATION:

<table>
<thead>
<tr>
<th>Name:</th>
<th>Signature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX A

Request for advance approval of unusual* expenses

[*Categories of unusual expenses are listed in paragraph 2, Section III of the “Guidelines for Appropriate Expenditure of Income from the Student Technology Fee.”]

Department: Chemical & Biological Engineering

Building/room location: Sweeney/2059

Description: Educational Technology Equipment – Computerized UV/VIS Spectrophotometer, including probes, cables, and computerized data acquisition in support of ChE 325 and ChE 426 undergraduate teaching laboratories.

Total Project Cost: Approximately $47,944.80 (see attached quote).

Category of unusual expense(s) within the project (see http://www.cio.iastate.edu/committees/cac/policies/expenditures_2011-2012.pdf):
Consulting CAC for purchase of major educational technology equipment (> $25 K)

Costs associated with these unusual expenses: $47,944.80

Date(s) of proposed expense: Spring 2017 for installation in summer 2017 and use starting Fall, 2017.

Justification*: We request the purchase of educational technology equipment in the form of an automated analytical ultraviolet/visible optical spectrophotometer for data acquisition to support experiments that are conducted by students in our junior (ChE 325) and senior (ChE 426) required laboratory courses. The technology will be used in multiple experiments including dye measurements for residence time distribution determination, measurement of chemical reaction kinetics, fermentation cell counts, and experiments on chromatography for protein separations. This instrument allows for automated and computer controlled analysis and data acquisition in support of measurements used in our undergraduate teaching laboratories.

*(Please attach PIQ of employee if requesting greater than 50% of base salary support from CAC.)

Requested by: Andrew C. Hillier, Chair of CBE

College approval: ___________________________ approval:
### Sales Proposal

**Quotation:**  SSI-111197-C4X1  
**Expiration:**  3/25/2017  
**Quote Description:**  UV-3600 Plus Spectrophotometer  

**Proposed Ship Date:**  30 Days/ARO  
**FOB:**  DESTINATION  
**Ship Method:**  BEST WAY  
**Incoterms:**

**Additional Information:**
Price per ISU Preferred Vendor Contract.

**For proposal questions or modifications, please contact your sales representative.**

---

**Customer:**  
Ashley Augspurger  
Iowa State University  
2114 Sweeney Hall  
618 Bissel Road  
Ames, IA 50011  
Phone:  (515) 294-4134  
Fax:  
E-mail:  ashleye1@iastate.edu

**Sales Engineer:**  
Douglas Catron  
Shimadzu Scientific Instruments  
8052 Reeder Street  
Lenexa, KS 66214  
Regional Office:  (877) 698-7923 Ext. 1281  
Direct Dial:  (913)888-9449  
E-mail:  DHCatron@SHIMADZU.com

**For Order Placement:**  
Reference Quotation Number on Purchase Order  
If you are tax exempt, please send a copy of your exemption certificate with your purchase order. Certificate may also be faxed to 410-381-1222.

Shimadzu Scientific Instruments  
7102 Riverwood Drive, Columbia, MD 21046  
Toll Free:  800-477-1227  
Local:  410-381-1227  
Fax:  410-381-6781  
E-mail:  customer.service@shimadzu.com

International:  
Fax:  410-309-6130  
E-mail:  icsc@shimadzu.com

---

**Authorization Signature**

Lonny Ennen  
Date: 2/23/2017
**Sales Quotation - please reference the quotation when submitting purchase order.**

### UV-3600 Plus

<table>
<thead>
<tr>
<th>Product #</th>
<th>Qty</th>
<th>Description</th>
<th>List Price</th>
<th>Ext’d Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 220-93623-01</td>
<td>1</td>
<td>UV-3600Plus With UVProbe and Cables</td>
<td>$55,476.00</td>
<td>$44,380.80</td>
</tr>
<tr>
<td>2 220-92910-74</td>
<td>1</td>
<td>MICRO FLOW-THROUGH CELL, 10MM, SILICA</td>
<td>$827.00</td>
<td>$661.60</td>
</tr>
<tr>
<td>3 206-29510-42</td>
<td>1</td>
<td>TCC-100, THERMOELECTRICALLY CONTROLLED, TWO CELL HOLDER</td>
<td>$3,628.00</td>
<td>$2,902.40</td>
</tr>
<tr>
<td>4 I&amp;F 1 DAY</td>
<td>1</td>
<td>1 DAY INSTALLATION AND CUSTOMER FAMILIARIZATION</td>
<td>$2,240.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>5 1YW</td>
<td>1</td>
<td>1 YEAR WARRANTY</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Total List Price:** $62,171.00  
**Total Line Item Discount:** $14,226.20  
**Quote Sub-Total:** $47,944.80  
**Total Amount:** $47,944.80
### Optional Items:

#### UV-3600 Plus

<table>
<thead>
<tr>
<th>Product #</th>
<th>Qty</th>
<th>Description</th>
<th>List Price</th>
<th>Ext’d Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>206-23890-92</td>
<td>1</td>
<td>TEMP CONTROLLED SYRINGE SIPPER</td>
<td>$3,628.00</td>
<td>$2,902.40</td>
</tr>
<tr>
<td>220-92939-10</td>
<td>1</td>
<td>T2 Single Temp Controlled Cuvette Holder-UV-VIS</td>
<td>$5,180.00</td>
<td>$4,144.00</td>
</tr>
<tr>
<td>220-92939-03</td>
<td>1</td>
<td>T-APP Temperature Application S/W For T2 And T2X2 Temp Controllers For UV-VIS</td>
<td>$239.00</td>
<td>$191.20</td>
</tr>
</tbody>
</table>
Descriptions of Service Coverage

Preventative Maintenance
Preventative Maintenance (PM) visits will be scheduled by SSI at the mutual convenience of the buyer and SSI, or performed during any other service visit. PM visits, when provided under this Agreement, may include necessary cleaning, adjustments, verification, lubrication and parts replacement according to the PM checklist. Labor, travel expenses, and selected consumable parts will be included during the PM visit at no additional cost to the buyer.

Premium Preventative Maintenance
Premium Preventative Maintenance visits will be scheduled by SSI at the mutual convenience of the customer and SSI, or performed during any other service visit. This Premium PM will be performed by SSI according to established SSI procedures. Premium PM visits, when performed under this Agreement, will include necessary cleaning, adjustments, verification, lubrication and parts replacement. Labor, travel expenses and selected consumables parts* (list of parts available upon customer request) will be included during the Premium PM visit at no additional cost to the customer. A travel zone fee is added to the agreement to cover travel costs. Purchase of the Premium PM option does not excuse Customer from performing normal daily, weekly or monthly maintenance that may be required.

Extended Warranty
Extended Warranty coverage includes all labor and parts (excluding consumables) necessary to restore the products to operating specifications. This coverage level is not available for MS products and the associated turbo and roughing pumps. The MS products require a coverage level which includes a Premium PM.

Extended Warranty Plus
A combination of one scheduled Premium PM visit and Extended Warranty Coverage. Premium Preventative Maintenance visits will be scheduled by SSI at the mutual convenience of the customer and SSI, or performed during any other service visit. Premium PM visits, when performed under this Agreement, will include necessary cleaning, adjustments, verification, lubrication and parts replacement. Labor, travel expenses and selected consumables parts* (list of parts available upon customer request) will be included during the Premium PM visit at no additional cost to the customer. The extended Warranty Includes all labor and parts (excluding consumables outside of PM) necessary to restore the products to operating specifications. A travel zone charge is added to the contract to cover travel costs. In the event of a covered product failure, SSI will use its best effort to provide on-demand service.

Premium Total Coverage
This level of agreement provides the customer with a level of coverage includes all labor and non-consumable parts, a Premium PM visit, and in addition provides for the replacement of consumable parts outside of a PM visit at no additional cost to the buyer. Use of this level of Service will be monitored by SSI and in the event that the buyer’s use does not exceed two visits during the effective dates of the agreement, the buyer will be entitled to an agreed upon rebate at the end of the agreement term. This rebate must be applied to the purchase of future service agreements or other services offered by SSI.
## Line Item Descriptions

<table>
<thead>
<tr>
<th>Product #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>220-93623-01</td>
<td><strong>UV-3600Plus With UVProbe and Cables</strong>&lt;br&gt;High performance UV-VIS-NIR Spectrophotometer with four gratings, wide dynamic range -6 to 6.0 ABS, resolution to 0.1nm, excellent stray light rejection: less than 0.00008% at 220nm, sealed optics, self-aligning lamps, optional MPC-603 large sample compartment, high-mass, stable optical bench, selectable and constant bandpass. 3 detector system includes - PMT, InGaAs and Peltier controlled PbS detectors for a superior S/N ratio. A wide variety of optional accessories is available for use with the UV-3600Plus. The UV-3600Plus is engineered with maximum efficiency to assure high signal resolution and reproducibility.</td>
</tr>
<tr>
<td>220-92910-74</td>
<td><strong>MICRO FLOW-THROUGH CELL, 10MM, SILICA</strong>&lt;br&gt;Material: QS (quartz), Light Path:10mm, Center Height: 15, Outside Dim.: 35x12.5mm, Aperture Dia.:3mm, Vol.:80µL, Window:2, Includes: Al-holder with 2 screw connectors/M6x1 and FEP tubing (OD:1.9mm, ID:1.1mm, 500mm long).</td>
</tr>
<tr>
<td>206-29510-42</td>
<td><strong>TCC-100, THERMOELECTRICALLY CONTROLLED, TWO CELL HOLDER</strong>&lt;br&gt;An easy-to-use constant-temperature cell holder that uses a Peltier Element for electronic cooling. It does not require an external thermostatic bath or water for cooling. Number of cells: One each on sample and reference sides (temperature-controlled). Temperature control range: 7 to 60 C. Temperature display accuracy: +/- 0.5 C. Temperature control precision: +/-0.1 C.</td>
</tr>
</tbody>
</table>

## Optional Item Descriptions

<table>
<thead>
<tr>
<th>Product #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>206-23890-92</td>
<td><strong>TEMP CONTROLLED SYRINGE SIPPER</strong>&lt;br&gt;Provides a temperature-controlled syringe sipper pump and tubing.</td>
</tr>
<tr>
<td>220-92939-10</td>
<td><strong>T2 Single Temp Controlled Cuvette Holder-UV-VIS</strong></td>
</tr>
<tr>
<td>220-92939-03</td>
<td><strong>T-APP Temperature Application S/W For T2 And T2X2 Temp Controllers For UV-VIS</strong>&lt;br&gt;Optional software T-App Temperature Application Software allows external computer control of the T2 and T2X2 temperature controller. The software plots cuvette holder or probe temperatures versus time and enables script control.</td>
</tr>
</tbody>
</table>
SALES AGREEMENT

The sales agreement ("Sales Agreement"), as referenced herein below, shall mean and refer to these General Terms and Conditions of Sale ("General Terms and Conditions of Sale"), together with such other documents concerning the purchase of equipment and/or Products designed and/or manufactured by Shimadzu ("Products"), which documents have been or will be executed by and between Shimadzu Scientific Instruments, Inc. ("SSI") and the individual or entity identified therein as the purchaser of said Product(s) ("Buyer"). The documents that comprise the Sales Agreement may include, but are not limited to: these General Terms and Conditions of Sale; price quote provided by SSI; purchase order issued by Buyer as modified and accepted by SSI; bill of sale for Products; bill of lading issued for the shipment of Products; and product invoice. *All Products except designated CL versions of HPLC and LCMS, shall be for research use only and not for use in the diagnosis of disease or other conditions, including a determination of the state of health, in order to cure, mitigate, treat or prevent disease or its sequelae ("Diagnostic Purposes").

PRICES

The prices set forth in the Sales Agreement:

(i) are SSI’s domestic prices based upon manufacture of the quality and type of Product(s) ordered for shipment to and end use within the United States - all Products shipped for end use outside the United States shall be subject to SSI’s international pricing;

(ii) are subject to revision when interruption, engineering changes or changes in quantity or quality are caused or requested by Buyer; and

(iii) unless otherwise specified, do not include warranty service or installation outside the United States. Errors in Product pricing or related terms by SSI which may, in SSI’s sole discretion, be deemed clerical errors are subject to correction by SSI at any time.

SPECIFICATIONS

Weights and dimensions set forth in Product related sales literature ("Sales Literature") are not guaranteed unless previously certified in writing. SSI may, without affecting the obligations under the Sales Agreement, alter that SSI regards in its sole discretion as minor changes to the specifications of the Product or Products delivered under the Sales Agreement from those contained in Sales Literature.

TERMS OF PRODUCT USE

Buyer represents and warrants that the Products have not been purchased for Diagnostic Purposes and that the Buyer will not at any time use the Products for Diagnostic Purposes, except designated CL versions of HPLC and LCMS Products. The Buyer acknowledges that use of the Product for Diagnostic Purposes is for Termination of this Agreement, as set forth in the "Contingencies; Force Majeure" section below.

TAXES AND OTHER CHARGES

(i) The cost of packaging for domestic shipments is included in the quoted price unless otherwise provided. For international shipments or where special packaging is specified or necessary, a charge will be made to cover such expense.

(ii) For shipments to and from locations in the United States, all shipments, unless otherwise agreed in writing, shall be FOB point of shipment and title and risk of loss or damage shall pass to Buyer at the point of shipment. For transportation or insurance (if requested by Buyer) shall be borne by Buyer.

(iii) For shipments from the United States to ports and places outside the United States all shipments are, unless otherwise agreed in writing, FOB Columbia, MD. SSI’s obligation to affect shipment of the Products purchased by Buyer shall be fully discharged, and beneficial ownership, legal title and all risk of loss or damage shall pass to Buyer when the Products are made available for shipment to a carrier at the designated FOB location. Upon arrival Buyer shall be entitled to conduct a reasonable investigation of the Products purchased by it, but all claims for losses due to loss or damage to Products while in transit shall be waived unless made immediately in writing by Buyer to SSI, but not more than (30) thirty days after arrival. If Buyer shall fail or refuse to accept delivery of any of the Products for unverified claims for loss or damage to Products occurring while in transit, all sums paid on deposit shall be retained by SSI as liquidated damages, provided, however, that an SSI claim shall be recover in full its actual damage from Buyer in the event that actual damages exceed the amount retained as liquidated damages.

(iv) All claims for damage or loss of insured shipments shall be immediately communicated, when possible, to SSI at Shimadzu Scientific Instruments, Inc. 7102 Riverwood Drive, Columbia, Maryland 21046-2502 Attn: Customer Service, Phone: (410) 381-1227. Buyer shall immediately notify delivering carrier of loss or damage to the shipment and SSI will cooperate with Buyer in the adjustment of all claims. Buyer agrees to permit SSI or SSI’s representative to inspect damaged Products.

TERMINATION

Upon any termination or cancellation of the Sales Agreement by Buyer (if otherwise specifically permitted by the terms of the Sales Agreement), either in whole or in part, Buyer agrees to promptly pay appropriate termination or cancellation charges invoiced by SSI. At SSI’s sole discretion, the termination charge shall be not less than twenty percent (20%) of the total amount of the Sales Agreement.

RETURN PRODUCTS

All returns must be pre-authorized by SSI and a Return Goods Authorization ("RGA") number must appear on the face of the package. Returned Products will be subject to a restocking charge. If deemed appropriate at SSI’s sole discretion, the restocking charge shall be not less than twenty percent (20%) of the total amount of the Sales Agreement.

ALLOCATIONS

If SSI is unable for any reason to supply the total demands for Products specified in Buyer’s order, SSI may allocate its viable supply among any or all buyers, including Buyer, on such basis as SSI may deem fair and practical, without liability for any failure of performance which may result therefrom.

TAXES AND OTHER CHARGES

All taxes on Products, goods and/or services sold under the Sales Agreement, including but not limited to federal, state and local excise, sales or use taxes, shall be borne solely by Buyer. Buyer shall be obligated to pay all taxes set forth on invoices, in accordance with the terms of payment, provided that SSI shall not invoice taxes when within 30 days of placing the order, Buyer has furnished SSI with written proof of exemption from tax in the form of a certificate of exemption or an equivalent document which Buyer represents and warrants is properly completed and validated executed. If, notwithstanding the foregoing, any taxing authority attempts to assess taxes, Buyer shall indemnify and hold harmless SSI from any loss , damage, claim or cause of action, including, but not limited to, tax, interest, penalties and professional fees, related to such attempted assessment and shall make payment to SSI for any such costs paid by SSI and invoiced to Buyer in accordance with the terms of payment.

PATENTS

SSI shall defend any suit or proceeding brought against Buyer so far as based upon an assertion that any Product furnished under the Sales Agreement constitutes a direct infringement of any United States patent having a claim of claims covering solely the Product itself, if notified promptly in writing and given authority, information and assistance (at SSI’s expense) for the defense of same, and SSI shall pay all damages and costs awarded therein against Buyer. In the event said Product in such suit is held to constitute infringement and the use of said Product is enjoined, SSI shall, at its own expense, either:

(i) procure for Buyer the right to continue using said Product, (ii) replace the same with a non-infringing Product, (iii) modify it so it becomes non-infringing, or (iv) remove said Product and refund the purchase price and transportation costs thereof.

The foregoing obligations of SSI shall not apply to any infringement claim based upon:

(i) any use of any Product sold hereunder in any process or in conjunction with any other product, (ii) any Product manufactured to Buyer’s design or any Product having a design arising from SSI’s compliance with

Company Name: Iowa State University
Quote Number: SSI-111197-C4X1
Activation Date: 2/23/2017
Expiration Date: 3/25/2017

Page 6 of 7
Buyer's specifications; or (iii) use of any Product sold hereunder, if the Product has been modified or customized by Buyer.

The foregoing sets forth the entire liability of SSI for patent infringement by said Product. If any suit or proceeding is brought against SSI based on claims that the goods manufactured by SSI in compliance with Buyer's specifications and supplied to Buyer directly infringe any fully issued United States patent, then the patent indemnity obligations herein stated with respect to SSI shall reciprocally apply with respect to Buyer.

WARRANTY

Subject to the exceptions and upon the conditions stated below, SSI warrants that the Products sold under the Sales Agreement shall be free from defects in workmanship and materials for one year after shipment of the Products to the original Buyer by SSI (the "Warranty"), and if any such Products should prove to be defective within such one year period, SSI's sole liability (and Buyer's sole and exclusive remedy) shall be, at its option, either (i) to correct by repair or, at SSI's election, by replacement with equivalent product any such defective Product, provided that investigation and factory inspection discloses that such defect developed during normal and proper use, or (ii) to refund the purchase price. The exceptions and conditions mentioned above are as follows:

(i) Components or accessories manufactured by SSI which by their nature are not intended to and will not function for one year are warranted only to give reasonable service for a reasonable time; what constitutes reasonable time and reasonable service shall be determined solely by SSI. A complete list of such components and accessories is maintained at the factory;

(ii) SSI makes no warranty with respect to components or accessories not manufactured by it, in the event of defect in any such component or accessory SSI will give reasonable assistance to Buyer in obtaining from the respective manufacturer whatever adjustment is authorized by the manufacturer's own warranty;

(iii) Any Product claimed to be defective must, if required by SSI, be returned to the factory, transportation charges prepaid, and will be returned to Buyer with transportation charges collect unless the Product is found to be defective, in which case SSI will pay all transportation charges;

(iv) If the Product is a reagent or the like, it is warranted only to conform to the quantity and content and for the period (but not in excess of one year) stated on the label at the time of delivery;

(v) SSI may from time to time produce a special printed warranty with respect to a certain Product, and where applicable, such warranty shall be deemed incorporated herein by reference;

(vi) SSI shall be released from all obligations under all warranties, whether expressed or implied, if any Product covered hereby is repaired or modified by persons other than its own authorized service personnel unless such repair by others is made with the written consent of SSI; and

(vii) SSI's warranty is in addition to all warranties, either express or implied, shall be expressly conditioned upon payment in full by Buyer for the Products covered by the warranties. In the event of non-payment, whether for the entire purchase price or a part thereof, SSI shall be released from all obligations under all warranties, either express or implied.

IT IS EXPRESSLY AGREED THAT THIS WARRANTY SHALL BE IN LIEU OF ALL WARRANTIES OR WARRANTY OF ANY NATURE WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND MERCHANTABILITY, AND THAT NEITHER BUYER NOR SSI SHALL BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR CAUSE WHATSOEVER, INCLUDING, BUT NOT LIMITED TO LOSS OF USE, LOSS OF DATA, LOSS OF PRODUCTIVITY, LOSS OF BUSINESS, LOSS OF PROFIT, LOSS OF PLANT, EQUIPMENT OR PRODUCTION. THE LIMITATION OF LIABILITY FOR SUCH DAMAGES SHALL BE APPLICABLE EVEN IF SSI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING OUT OF THE MANUFACTURE, SALE, HANDLE, REPAIR, MAINTENANCE OR REPLACEMENT OF ANY OF THE PRODUCTS SOLD UNDER THE SALES AGREEMENT.

If an SSI Special Warranty (covering a designated item or items) is contained in the manual or is otherwise shipped with such designated item or items, the terms and conditions specified therein are incorporated herein by reference and shall supplement the foregoing warranty. In the event of a conflict between the terms and conditions specified herein and those specified in such Special Warranty, the terms and conditions contained herein shall prevail. If any part of the sale shall not be effective as to any party, then the Sections thereof shall have effect, and if any, then the remaining Sections shall have effect.

The Sale Agreement is made and entered into, and shall be governed, enforced and interpreted in accordance with the laws of the State of Maryland. The Buyer hereby expressly consents to the jurisdiction of the courts of the State of Maryland with respect to all issues and questions of law or fact pertaining to the Sales Agreement. In the event that either party commences litigation to enforce the Sales Agreement, said litigation shall be brought in the courts of Howard County, Maryland. The prevailing party to any such action shall be entitled to an award of all costs and attorney's fees actually incurred.

CONFIDENTIAL INFORMATION

Except as required by law, neither party shall use (except for purposes connected with the performance of its obligations hereunder), divulge or communicate to any third party any information of the kind or nature of its Products, or any other information, designs, services, or other work supplied to Buyer, whether or not confidential, in connection with or in relation to or in connection with the sale, transportation, installation, use, or repair of the Products by Buyer or of the information, designs, services or other work supplied to Buyer, whether caused by the concurrent and/or contributory negligence of Buyer, SSI, or any of their agents, employees or suppliers. The obligations, indemnities and covenants contained in this paragraph shall survive the consummation or termination of this transaction.

CANCELLATION

Buyer agrees to comply fully with all federal, state, county and local laws, rules and regulations concerning the purchase, sale and use of Products. Without limiting the foregoing, Buyer agrees to comply with any the Export Administration Regulations; Federal Food, Drug & Cosmetics Act; the International Traffic In Arms Regulations of the United States; and the Foreign Corrupt Practices Act of the United States in so far as they apply to the sale of Products. To the extent the Products require license for export, the Products are licensed by the United States for delivery to the ultimate destination as shown on the shipment/invoice address and any controversy arising out of or in connection with this Agreement shall be governed by the laws of the State of Maryland. The Buyer hereby expressly consents to the jurisdiction of the courts of the State of Maryland with respect to all issues and questions of law or fact pertaining to the Sales Agreement. In the event that either party commences litigation to enforce the Sales Agreement, said litigation shall be brought in the courts of Howard County, Maryland. The prevailing party to any such action shall be entitled to an award of all costs and attorney’s fees actually incurred.

GENERAL PROVISIONS

The rights and obligations under these General Terms and Conditions of Sale will inure to the benefit of, and be binding upon the parties hereto and their respective heirs, administrators, executors, personal representatives, successors and permitted assigns. No action, failure of action or delay by either party will constitute a waiver of any of its rights or remedies under these General Terms and Conditions of Sale. SSI and Buyer are not, and will not be, joint ventures, partners, agents, servants, or employees or fiduciaries of the other, and do not have the power to bind or obligate the other. The waiver of a breach of any provision does not constitute a waiver of a subsequent breach of the same or different provision. If any of the terms of these General Terms and Conditions of Sale or the Sales Agreement are subsequently or are now illegal, they will be severed without affecting the remaining terms. The section headings are for reference only and will not be considered controlling as to the content and/or interpretation of any section.

ENTIRE AGREEMENT

These General Terms and Conditions of Sale, together with the Sales Agreement, and any attachments, exhibits and supplements specifically referred to in the Sales Agreement, are intended by the parties as a complete and exclusive statement of the terms of their agreement, and supersede all prior agreements, written or oral. No course of prior dealings between the parties and no usage of the trade may be used by Buyer to supplement or explain any term used herein.
APPENDIX A

Request for advance approval of unusual* expenses

[*Categories of unusual expenses are listed in paragraph 2, Section III of the “Guidelines for Appropriate Expenditure of Income from the Student Technology Fee.”]

Category of unusual expense (from guidelines): Other - furniture

Projected Cost: $3677.80 (assembled and installed)

Description: Install two additional computer workbenches in ME 370 instrumentation lab.

Date(s) of proposed expense: June 2017

Justification*: With the increased enrollment in mechanical engineering, the student capacity needs to be increased for ME 370 - Instrumentation Lab. Two additional Wright Line Tech Benches will help the ME department accommodate the increased enrollment by allowing four additional students in each lab section. These benches match the existing computer work benches in the lab.

*(Please attach PIQ of employee if requesting greater than 50% of base salary support from CAC.)

Requested by:  Nate Jensen

College approval: ______________________________
Wright Line Quote for Iowa State University

Customer Name: Deborah Schroeder
Address: Mechanical Engineering
2025 Black Engineering Bldg
2529 Union Dr
Ames, IA 50011
Customer Phone: 515-294-0859
Email Address: daschroe@iastate.edu
Lotus Quote No: QWHQMS_01794 Rev 2
Today's Date: 4/27/17
Ship Contact: Deborah Schroeder
Ship Phone: 5152940859
Shipping Comments: Order must ship complete. - Inside delivery/debris removal to basement via passenger elevator. They cannot accept a semi!
Billing Comments:
Installation Comments:
Transportation Comments:

WL Rep Name: Melinda Maxwell
WL Rep Address: 3226 Hardwood Hollow
Medina, OH 44256
WL Rep Phone: 330-242-6393
WL Rep Fax: 508-365-6167
WL Rep Email: MelindaMaxwell@Eaton.com

Inside Delivery: Yes  Receiving Dock: No
Floor No: basement  Remove Debris: Yes
Elevators: Passenger  Union: No
Truck with Lift Gate: Yes

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SubTotal $2,534.80
Transportation $643.00
Installation $500.00
Tax Plus Applicable Sales
Total $3,677.80

Terms
NET 30, pending credit approval.

Disclaimers
Installation, Tax and Transportation Charges, if provided, are estimates only

Accepted By
Prepared by Wright Line: 4/27/17

Customer Signature  Wright Line Signature
- The foregoing constitutes a written order accepted by the customer and Wright Line for the purchase of the goods described. Terms and conditions which also apply to this purchase order appear on the Terms & Conditions of Sale form and Warranty provisions, which constitute material parts of this order.
- Proposal valid for 30 days, except during special promotions. Proposals with special promotions are valid for the term of the promotion only, but not to exceed 30 days.
- Buyer to provide color requirements on their Purchase Order. If buyer fails to identify color requirements on the Purchase Order, buyer accepts the colors identified on the seller’s quote as the approved configuration, and the Sales Order acknowledgement.

Wright Line’s remit-to address is: Federal Tax ID: 03-0471268
Wright Line LLC Duns#: 001438084
28204 Network Pl Cage Code: 81824
Chicago, IL 60673-1282

PO Submission:
Reference quote proposal number
and forward purchase order to:
onlineordering@eaton.com
Components are attached to TechBench and TechOrganizer with unique 12-gauge, trapezoid hooks.

Choose from over 500 accessory components including:

TechOrganizer
- Storage compartments
- Monitor arm
- Tool support
- Overhead lighting
- 3 panel options
- Rack-mount module
- Steel shelf
- Incline shelf

TechBench
- Cable management
- Service management (air, gas, electrical)
- Shelving
- Retractable keyboard platform
- Storage
- Casters

Wright Line, a global leader in the design and manufacture of technical furniture and enclosure systems, has served the information technology, office, engineering, and high-tech manufacturing environments for over 70 years. Our innovative designs are manufactured to the highest quality and safety standards.

Wright Line LLC
160 Gold Star Boulevard
Worcester, MA 01606
Tel: 800-225-7348
508-852-4300
Fax: 508-365-6178
Web: www.wrightline.com

Canadian Distributor
TAB Canada
130 Sparks Avenue
Willowdale, Ontario M2H 2S4
Tel: 800-667-4020
Fax: 800-765-9705

Please ask for details of other products from Wright Line.

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Wright Line sets a higher standard for engineering, manufacturing test and assembly environments with TechBench™ and TechOrganizer™. TechBench, a solidly constructed technical bench system, and TechOrganizer, a fully-welded frame storage system, work together to organize computer technology tools and equipment both above and below the worksurface.

TechBench and TechOrganizer deliver superior flexibility, quick reconfiguration and unmatched ergonomic comfort, helping technology and people work together more productively and efficiently.

**Manufacturing Environments**

By ergonomically organizing test equipment around the technical operator, Wright Line workbenches provide a clean, open worksurface for products under test. High-density storage as well as access to test equipment, tools and other items including paper records and manuals can be placed within arm’s reach with any of the following system accessories:

- secure storage above and below the workbench
- broad range of shelving components including ESD-controlled laminate or steel shelves
- cable management for safe concealment and routing of power and cables

**Test Environments**

Wright Line’s workbench systems for manufacturing environments provide heavy-duty support of equipment above and below the benchtop. The TechBench/ TechOrganizer system offers more effective use of the individual workspace, maximizing your facility’s square footage by providing:

- organized equipment and tools for more efficient and ergonomic employee access
- maximized vertical space utilizing traditionally wasted vertical potential within the facility
- integrated cable management, eliminating workspace clutter

By making your environment more productive, employees become more productive. With better access to tools and equipment, businesses will benefit from reduction of operator fatigue, increased production and reduced cycle time.

**Assembly Environments**

In assembly environments where quick access to tools and parts is essential, Wright Line stands unrivaled. Workbenches can be configured for both hand assembly or for use with automated assembly equipment.

Unique ergonomic features reduce adverse impact sustained by employees during repetitive motion through:

- radiused-edges on benchtops, assuring working comfort
- retractable keyboard platforms for full ergonomic positioning
- footrests for minimized leg muscle tension

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- radiused-edges on benchtops, assuring working comfort
- removable keyboard platforms for full ergonomic positioning
- footrests for extended leg muscle release

Wright Line’s workbench systems for manufacturing environments provide heavy-duty support of equipment above and below the benchtop. The TechBench/TechOrganizer system offers more effective use of the individual workspace, maximizing your facility’s square footage by providing:

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- secured storage above and below the workbench
- broad range of shelving components including ESD-controlled laminate or steel shelves
- cable management for safe concealment and routing of power and cables

**Test Environments**

Wright Line’s workstation systems for manufacturing environments provide heavy-duty support of equipment above and below the benchtop. The TechBench TechOrganizer system offers more effective use of the individual workspace, maximizing your facility’s square footage by providing:

- organized equipment and tools for more efficient and ergonomic operator access
- maximized vertical space utilizing traditionally wasted vertical potential within the facility
- integrated cable management, eliminating workspace clutter

By making your environment more productive, employees become more productive. With better access to tools and equipment, businesses will benefit from reduction of operator fatigue, increased production and reduced cycle time.

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Unique ergonomic features reduce adverse impact sustained by employees during repetitive motion through:

- radiused-edges on benchtops, assuring working comfort
- retractable keyboard platforms for full ergonomic positioning
- footrests for minimized leg muscle tension

By making your environment more productive, employees become more productive. With better access to tools and equipment, businesses will benefit from reduction of operator fatigue, increased production and reduced cycle time.

**Service Bar**

800-225-7348 • www.wrightline.com • info@wrightline.com

2 800-225-7348 • www.wrightline.com • info@wrightline.com

3 800-225-7348 • www.wrightline.com • info@wrightline.com

4 800-225-7348 • www.wrightline.com • info@wrightline.com
Components are attached to TechBench and TechOrganizer with unique 12-gauge, trapezoid hooks. Choose from over 500 accessory components including:

TechOrganizer
- Storage compartments
- Monitor arm
- Tool support
- Overhead lighting
- 3 panel options
- Rack-mount module
- Steel shelf
- Incline shelf

TechBench
- Cable management
- Service management
  (air, gas, electrical)
- Shelving
- Retractable keyboard platform
- Storage
- Casters

Features of the TechBench and TechOrganizer System

Today – standard components, adjustable in one inch increments, allow you to locate equipment exactly where required for optimum productivity.

Tomorrow – just two structural parts to move make it the easiest system to reconfigure as your future workspace changes.

Availability of over 500 accessory components allows for endless environment adaptation.

Forever – Wright Line backs its product quality with a lifetime warranty.

Wright Line, a global leader in the design and manufacture of technical furniture and enclosure systems, has served the information technology, office, engineering, and high-tech manufacturing environments for over 70 years. Our innovative designs are manufactured to the highest quality and safety standards.
Components are attached to TechBench and TechOrganizer with unique 12-gauge, trapezoid hooks.

Choose from over 500 accessory components including:

**TechOrganizer**
- Storage compartments
- Monitor arm
- Tool support
- Overhead lighting
- 3 panel options
- Rack-mount module
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- Incline shelf

**TechBench**
- Cable management
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- Storage
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**Wright Line LLC**
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Worcester, MA 01606
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508-852-4300
Fax: 508-365-6178
Web: www.wrightline.com

**Canadian Distributor**
TAB Canada
130 Sparks Avenue
Willowdale, Ontario M2H 2S4
Tel: 800-667-4020
Fax: 800-765-9705

Please ask for details of other products from Wright Line.

All products and company names are trademarks or registered trademarks of their respective holders. Every effort has been made to ensure that the information contained herein is correct. The company reserves the right to modify product specifications without prior notice and assumes no responsibility for any error which may appear in this publication.

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APPENDIX A

Request for advance approval of unusual* expenses

[*Categories of unusual expenses are listed in paragraph 2, Section III of the “Guidelines for Appropriate Expenditure of Income from the Student Technology Fee.”]

Category of unusual expense (from guidelines): Other - Computing furniture & electrical outlets

Projected Cost: Seating Innovations: $21,200 (installed)
Iowa Countertops: $4141.87 (installed)
FP&M (electrical): $4700

Total: $30,041.87

Description: Install 42 seats of computing furniture, electrical outlets, and mobile device chargers in Black Engineering Building

Date(s) of proposed expense: June 2017

Justification*: The Mechanical Engineering Department has the highest enrollment of any department on campus and continues to grow each semester. Due to the continually increasing enrollment, we need more places for students to access computers to work on class projects. We do not have any available lab space so we are planning to install hallway seating from Seating Innovations to accommodate up to 42 additional work stations and students (40 from Seating Innovations and 2 wheelchair accessible stations). These will be in lower traffic areas of the building where congestion will not be a problem. ISU EH&S has given the go-ahead on the locations and verified there will not be any fire or accessibility hazards. ISU FP&M has been involved in the planning stages and verified these locations will be fine and not cause any issues on their end. FP&M will be installing the electrical and Iowa Countertops will be supplying and installing the countertops.

*(Please attach PIQ of employee if requesting greater than 50% of base salary support from CAC.)

Requested by: Nate Jensen

College approval: ____________________________
## SEATING INNOVATIONS

**Bill To:**

Iowa State University  
2025 Black Engineering 1  
Ames, IA 50011

**Ship To:**

Iowa State University  
2025 Black Engineering 1  
Ames, IA 50011

**Quote**

**Invoice #:** 00018614

515-294-0859

### Quote Details

**SALESPERSON**  Richard P. O'Connor  
**JOB NAME/PO#**  
**SHIP VIA**  Best Way  
**SHIP DATE**  3/13/17  
**TERMS**  Prepaid  
**DATE**  

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| SALE AMT. | $20,600.00  |
| FREIGHT   | $600.00     |
| SALES TAX | $0.00       |
| TOTAL AMT. | $21,200.00 |
| PAID TODAY | $0.00       |

**BALANCE DUE** $21,200.00
Date: 4/14/2017
Estimate #: 23319

Attention: Deb Schroeder

Fax Number:

Job Address: Department of Mechanical Engineering
2025 Black Engineering
Ames Ia

Phone:

Signature (or PO #)

Quoted by: Brian

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Terms: 1/2 down, net due upon receipt.

Sales Tax (6.0%) $0.00

Total $4,141.87

Quotes will be honored for 90 days.
April 28, 2017

Iowa State University
Black Engineering

RE: Black hall-way receptacles

We propose to do the electrical work as follows:

1. Pipe EMT conduit out of electrical room in basement level to receptacle location
2. Set box at every 4 1/2' location with receptacle, USB port combo
3. Pipe EMT in between every box location
4. Pull # 12 wire stranded wire to each receptacle
5. Stub up EMT pipe to 80” high above every receptacle location

We appreciate the opportunity to provide you with the following estimated pricing for the above referenced work. This is an estimated price and does not include work performed beyond the original scope of work. Please do not hesitate to contact us should you have any questions.

Total does not include after hour utility service charge, if any.
Total estimated cost $ 4700.00
Plus applicable taxes

Thank you

Mike Koch

515-232-2445
mike.koch@nelsonelectric.biz

Nelson Electric Company
APPENDIX A

Request for advance approval of unusual* expenses

[*Categories of unusual expenses are listed in paragraph 2, Section III of the “Guidelines for Appropriate Expenditure of Income from the Student Technology Fee.”]

Category of unusual expense (from guidelines): Other - Computing furniture (tables and seating)

Projected Cost: Storey Kenworthy (tables): $7,984  
Freight: $600  
Installation and assembly: $800  
Virco (chairs): $2334.50  
Total: $11,718.50

Description: Update furniture in 1360 Hoover Sophomore Design Lab (ME 270) to handle increased enrollment and address accessibility and safety concerns.

Date(s) of proposed expense: July 2017

Justification*: The Mechanical Engineering Department has the highest enrollment of any department on campus and continues to grow each semester. Due to the continually increasing enrollment, we need to increase the section size of ME 270 (Sophomore Design). We plan to purchase 8 Smith System Multimedia Tables and 50 Virco chairs to allow ME 270 to increase the number of student seats per section from 42 to 48. These lower tables will replace the tall existing workbenches to address wheelchair accessibility issues and allow us to repurpose the old workbenches to use for project assembly. Repurposing those will also help keep students out of our machine shop in 1260 Hoover to address safety concerns due to overcrowding. These Smith System Multimedia Tables will match the tables and chairs we purchased in the summer of 2016 for ME 415 (Senior Design) in 0095e Black Engineering.

*(Please attach PIQ of employee if requesting greater than 50% of base salary support from CAC.)

Requested by: Nate Jensen

College approval: ________________________________
Here is pricing for the tables you requested (does not include SK delivery or install, which I might estimate on the high side, around $800 based on your last order):

Qty (8) Smith Systems Model # 04140 Round End Multi-Media Table (6 power/4 USB)
Laminate: Pewter Mesh
Edge color: Charcoal
Frame: Platinum
Priced at $998.00 each x (8) tables = $7,984

OR

Qty (8) Smith Systems Model # 04139 Round End Multi-Media Table (8 power)
Laminate: Pewter Mesh
Edge color: Charcoal
Frame: Platinum
Priced at $998.00 each x (8) tables = $7,984

Freight to for (8) tables to SK Ames warehouse - $600.00

Total - $9,384.00

Please let me know if you have any questions.

Thank you,

Jennifer Linderblood | Account Manager, Furniture Sales
Phone: 515-954-3416
large round end multi-media table

interchange round end multi-media

OVERVIEW:
Table lines flair to provide clear sightlines for multi-person viewing and participation in distance learning or other presentation application. Large 72” long table accommodates two people comfortably along sides and two people at the head. Ideal for conference rooms hosting multimedia applications.

The WORK SURFACE consists of a 45 lb density particle board core with a 0.030” high pressure laminated surface and a 0.020” backer sheet. The edge of the work surface features T-mold that is stapled to the underside of the work surface every 6”-8”.

FRAME consists of two fully welded segments. Ellipse shaped tubes measure 1.5” x 2.5”. 16 gauge leg inserts and leg stems are welded to 14 gauge plates. The pre-drilled top is standard at 1 1/4” thick and available in 3/4” thick option. Laminate and T-mold color and style options are listed below. Top is predrilled to attach to legs using included fasteners. Legs include a 1” adjustable leveling glide with a locking stop to provide stability on uneven floors.

INTERCHANGE TOP & EDGE PROFILE

<table>
<thead>
<tr>
<th>1 1/4” TOP</th>
<th>3/4” TOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8” BUMPER T-MOLD</td>
<td>4MM T-MOLD</td>
</tr>
<tr>
<td>4MM T-MOLD</td>
<td>BULLET T-MOLD</td>
</tr>
</tbody>
</table>

optional interchange casterpacks:

Make it mobile with 3” casters
Order Model 17576

Black or Platinum cap available.

ADD POWER

#017085 / #017092
#017093 / #017086

add TV mount
#17354

DIMENSIONS + FREIGHT:

<table>
<thead>
<tr>
<th>MODEL #</th>
<th>D”</th>
<th>W”</th>
<th>H”</th>
<th>F.C.</th>
<th>CUBE</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>04137</td>
<td>72.75”</td>
<td>60.5”</td>
<td>22” - 34”</td>
<td>70</td>
<td>10.0</td>
<td>170 lbs.</td>
</tr>
</tbody>
</table>
Interchange™ Frame Color Options

Standard Laminate Options

Want to specify a different laminate?

No problem. If you have 20 or more tops of the same color -60 or -38 there is no upcharge. Have 20 or less? We can quote for you with the Wilsonart code and finish style. We can specify other laminates – call to inquire and get a quote.

Suggested Standard Laminates:

Classic Standard Laminates:

All 13 of the standard laminates are -60 finish, if you need to match a laminate from a previous year, please let us know on your order (example Pewter Mesh 4878-38, our standard is -60).

When the WilsonArt Laminate code includes a “Y”, “K”, “-12” “-78”, “Aeon” etc, these are special laminates with an upcharge, even when it contains -38 or -60.

Standard Edge Color Options
QUOTATION #8151403

Sold To:  
IOWA STATE UNIVERSITY  
3617 ADMINISTRATIVE SERVICE BLDG  
AMES IA 50011

Ship To:  
IOWA STATE UNIVERSITY  
3617 ADMINISTRATIVE SERVICE BLDG  
AMES IA 50011  
REFERENCE: DEBROAH SCHOEDER  
EMAIL 6/16

Quotation Date: 6/20/2017

We appreciate the opportunity to quote the enclosed prices for our products. Unless otherwise indicated, prices are net and do not include sales tax. Please refer to the above referenced Quotation Number when corresponding with Virco regarding this quote. We offer our quotation priced from the US COMMUNITIES 2017 MASTER AGREEMENT SV-15-0028-13 Contract. You will need to be registered for US Communities and provide your TIN number prior to acceptance of your purchase order. We offer our quotation subject to the following terms and conditions:

1) FOB Point: FOB Destination - Tailgate Delivery

2) Payment Terms: Net 30 days (subject to credit approval)

3) Prices Are Firm: For Orders Received By 12/31/2017 (Promo Prices Expire As Marked) Orders received after this date are subject to re-Quote.

4) For Shipment By: Customer Must Take Delivery Before 12/31/2017

5) Shipment from Virco: PLEASE NOTE: Shipment from Virco: Quick Ship Items: Ten days or less; Standard Items: Four weeks or less; Optional Items: Four to Six weeks; Custom products or specials: Extended lead times may apply, contact your Sales Representative for more information. If products with different leadtimes are on the same purchase order, the longest leadtime will apply to the entire order. Additional shipping and handling charges will apply to orders that are requested to be partial shipped before the Virco acknowledged due date. Orders that specify shipment later than the preceding dates will be subject to re-quote.

6) Color: Standard Virco colors only unless specified otherwise

7) Purchase Order: We require written purchase orders to be sent to Orders@virco.com or faxed to (800) 258-7367 or (800) 396-8232

8) Acknowledgement: Final acceptance and acknowledgement of orders will be as stated on the standard Virco Purchase Order Acknowledgment

9) Quantity: Any change in quantities may result in a price change
<table>
<thead>
<tr>
<th>Item #</th>
<th>Supplier/Model #</th>
<th>Description</th>
<th>Unit Price</th>
<th>Qty</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Virco Inc #CZ18C</td>
<td>Chair, Civitas Series, 4-Leg, Stackable, 18&quot; Seat Height, Ergonomically Contoured Zuma Plastic Seat, Steel Frame, Casters. - (50 ea Soft Plastic-&gt;Red (RED70) Frame-&gt;Chrome (CHR31))</td>
<td>$46.69</td>
<td>50</td>
<td>$2,334.50</td>
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**Promo Price Exp. 12/31/2017**
<table>
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<tr>
<td>1</td>
<td>Virco Inc #CZ18C</td>
<td>Chair, Civitas Series, 4-Leg, Stackable, 18'' Seat Height, Ergonomically Contoured Zuma Plastic Seat, Steel Frame, Casters. (Soft Plastic-&gt;Red RED70 Frame-&gt;Chrome (CHRMR)) Qty: 50</td>
</tr>
</tbody>
</table>
Eight Work Tables

- Project lockers
- Book bags on the floor have been a problem before. Larger tables mean more room for under table storage.
- More table space so students can work more comfortably. Also allows for 6 people per table rather than 5 to accommodate increased enrollment.
- Students and instructors both complained about tables being too high. These would be lower. This also makes each table handicap accessible.
- Work tables keep more assembly in 1360, keeping traffic down and making Boyd safer.
- CARDBOARD STORAGE