October 16, 2013

TO: Erika Lacro, Chancellor
Honolulu Community College

SUBJECT: Career & Technical Education Award

Honolulu Community College is awarded $45,313 in 2012-13 Title I Career and Technical Education Carryover funds to support the titled project:

Automotive Technology: Equipment Purchases to Integrate Current Industry Technology into AMT Curriculum $45,313

The award period for the project is from July 1, 2013 to June 30, 2014 and the award number for the project is: HON2012/13(2)-T1-15 and should be referenced on all future correspondence and reports. These funds must be expended and goods received by June 30, 2014. A completion report is due on October 10, 2014.

Please call Dominic (Nic) Estrella at 956-3865 if you have questions.

Sincerely,

[Signature]

Peter Quigley
Assoc. Vice President for Academic Affairs

Cc: B. Furuto, VCAS
R. Uyeno, VCAA, CTE Dean
D. Inafuku, FA
L. Tsuhako, FA
S. Robinson, Dir. of Academic Programs
CARL D. PERKINS VOCATIONAL AND TECHNICAL
EDUCATION ACT OF 2006
Perkins IV Intervention Strategy Proposal Form
(revised August 2013)

<table>
<thead>
<tr>
<th>Campus Priority Number: 1 of</th>
<th>Click here to enter text.</th>
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<tbody>
<tr>
<td>Carryover Funds from 2012 - 2013</td>
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</table>

1. College: Honolulu Community College

2. (Descriptive) Strategy Title: Automotive Technology: Equipment Purchases to Integrate Current Industry Technology into AMT Curriculum

3. Proposer’s Name: Noel Alarcon/Henry Maile/Keala Chock


5. Total Amount Requested: $45,313

6. Proposal meets the following requirement for uses of funds or permissible use of funds (see Appendix section on page 8 from UHCC College Plan Guidelines for FY 2013-14 (also describe how it meets this criterion):

This proposal meets the Perkins funding guidelines and falls under the permitted use stated in section C, paragraph 7, as follows:

(7) for leasing, purchasing, upgrading or adapting equipment, including instructional aids and publications (including support for library resources) designed to strengthen and support academic and technical skill achievement;

7. Brief Statement of identified problem area and reason for selection:

Overview
Demand for AMT graduates is expected to increase significantly given recent car sales trends. As of 09/04/2013, industry data indicates that sales of all automobile segments are up on a year-over-year basis, as follows: cars (+6.9%), light-duty trucks (+12.7%), SUV/crossover (+14.3%). Data from the ARPD for AMT indicates a 41.5% increase in Statewide new and replacement positions in 2012-13 over the previous year, and a 50% increase in County Prorated positions. The program is operating efficiently, with 186 majors and a fill rate of 83%, with a ratio of 41.7 students to FTE analytic faculty. The ARPD health calls for AMT are Demand (Unhealthy), Efficiency (Healthy), and Effectiveness (Cautionary). Although the Demand is labeled unhealthy, feedback from the industry to the program clearly indicates that AMT graduates are needed in the workforce. The following table from the U.S. Bureau of Labor Statistics (http://www.bls.gov/ooh/installation-maintenance-and-repair/automotive-service-technicians-and-mechanics.htm) indicates that openings for auto mechanics/technicians will grow 17% between 2010 and 2020.
However, currently HCC’s AMT program depends on older technology for some key areas of the curriculum, specifically, electrical diagnosis and suspension/alignment. This contrasts with the program’s ongoing participation in the energy sector initiative of the C3T project, for which the program is providing noncredit training in hybrid and EV automobile maintenance and repair. While the program has developed training in the latest developments of this aspect of automobile technology, it lacks key equipment in other areas. The result of this is that students leave the program with knowledge and experience that are slightly more dated than would be ideal as preparation for a career in the demanding and rapidly changing area of automotive technology. In the workplace, major maintenance and repair facilities (such as dealerships, Sears, etc.) use newer technologies and increasingly expect potential employees to have experience with them.

8. Brief Strategy Description: (Be succinct)

This proposal requests funding for equipment acquisition to help remedy this situation in the areas of electrical diagnosis and suspension/alignment. Specifically, the AMT is requesting funds to purchase eight laptops to attach to electrical diagnostic equipment and run the software, and to purchase two wheel alignment stations.

**Laptops for Electrical Diagnostics**

Traditionally, electrical diagnostics have been performed using chassis-style oscilloscopes. These oscilloscopes provide rudimentary information in comparison to the sophisticated electronics that are now included on virtually all modern production vehicles. Current diagnosis is generally performed with a software-based oscilloscope, which is connected to both the vehicle and to a computer. The AMT program has been able to acquire 8 instruments for student use, but does not have the resources to purchase the laptops that are required to use these kits. These instruments (Pico) are an industry standard and the information they provide are included in NATEF standards that the program needs to meet. The program seeks to purchase 8 Panasonic Toughbooks, which are a de facto industry standard for laptops used in shop areas due to their resilience. With these laptops, the program will be able to immediately include the new oscilloscopes in the curriculum and provide hands-on experience for students in this area.

This is a brief explanation of how oscilloscopes are used in automotive diagnostics and why newer digital technology is important, taken from an automotive parts web site (http://www.autoditex.com/Oscilloscope-FAQ/#6).
2. What purposes have oscilloscopes in automotive diagnostics?

The oscilloscope helps us find the problem quick and easy. Often the problem hasn’t recorded an error code (DTC) in the corresponding ECU, a DTC that can be read with a code reader. Usually a DTC is recorded when there is a broken cable or a cable has short circuited to a positive or negative supply. But when a detector or mechanism has stopped working in some bad position, there is no error recorded. In this case, as when you need to find the reason that caused an error to be recorded — the automobile oscilloscope is your most needed instrument.

With the increase of sensors, actuators and wiring diagrams built in the modern automobiles, the automobile oscilloscope is an instrument which diagnoses irregularities in the automobile faster and easier. The oscilloscope is an irreplaceable tool, when you have to observe output signals from inductive sensors, whose output signals form a impulse sequence, slow-changing analog signals, primary and secondary ignition circuits, intake manifold absolute pressure, starter current waveforms, charging currents and etc.

3. What types of oscilloscopes are there?

**Analog oscilloscope**

The ones with a cathode-ray tube screens. They show detailed graphics, and can usually show high frequencies, but are not suited for observing short processes repeated through a long time interval or relatively slow processes like the ones in an automobile.

**Digital storage oscilloscope**

The observed result from the digital storage oscilloscope is almost identical to the analog, but the signal shown on the DSO can be “frozen still” on the screen, saved on the PC’s hard drive, and used later, or printed. Further more only the current “screen” shown on the monitor can be saved, and a sequence of many screens can later be opened and observed through time as an animation. Any screen saved in the working file can be printed.

There are two kinds of digital oscilloscopes: independent which are external device, and PC oscilloscopes. The PC-based oscilloscopes are a new type of "oscilloscope" that consists of a specialized signal acquisition board, which can be an external USB or Parallel port device, or an internal add-on PCI or ISA card.

**Hunter Hawkeye Alignment System**

The existing alignment system being used by the program is based on a proprietary computer/software that is obsolete and can no longer be maintained or updated. It is based on the DSP 400 system that was in use in the 1990s. The new Hawkeye system is an industry standard that provides many more capabilities for instructional use, including enabling more students to participate in alignment (due to time savings in performing the procedure), greater data collection and analysis, and ease in use in an instructional situation (easier for students to see computer readings and adjustments). This system also improves on safety features when compared to the older technology, leading to a safer learning environment. As an industry standard, the Hawkeye system is used by major tire/wheel companies in Hawai’i such as Lex Brodie’s, Sears, and B.F. Goodrich. It will enable students to learn and gain experience with a technology that is in widespread, current use in the workplace and is suitable for use with late model cars.

The electrical and wheel alignment parts of the AMT curriculum are required for all students, and thus the curriculum changes resulting from the acquisition of the new technologies will affect all 186 AMT students. In addition, because AMT and Diesel Mechanics Technologies are closely related programs, it is expected that the new technologies will also benefit the 22 current DISL majors.

9. Calendar of Planned Activities: (add or delete rows as appropriate)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Month(s) the Activity will take place</th>
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Top of the page
10. Effectiveness Measures: (Refer to the identified problem – item #7), and describe the anticipated quantitative outcomes expected from the implementation of the strategy. Where appropriate, indicate the effectiveness measures that will be reported after year one, year two, etc.) **State the effectiveness measures clearly and in assessable terms.** The outcomes stated here must be addressed later in the completion report. Confer with your IR office to ensure the appropriateness of the measurement of outcomes.

1) Increase AMT Perkins performance in the 1P1 & 2P1 by end of AY 2014-15 to meet goals (based on current performance measures, this will require the program to improve 1P1 by 6.17% and 2P1 by 25%).
2) Increase new student persistence rate between 3-5%.
3) Increase returning students completion rates by 3-5%.
11. Budget Summary  (Double click to activate worksheet. Scroll back to top when done and click outside the sheet). Itemize all items $500 and over.

<table>
<thead>
<tr>
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<th>Subtotal</th>
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<tr>
<td>Personnel Subtotal</td>
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<td>Fringe Benefits (List per position)</td>
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<td>Equipment</td>
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<td>State of Hawaii Sales Tax @ 4.167%</td>
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<tr>
<td>TOTAL COSTS</td>
<td>$ 45,313</td>
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Fringe Benefit Rates (as of)  7/15/11
Faculty/Staff  40.25%
Casual Hire/Overload  2.17%
Student  0.52%
12. Budget Elements:

- **Personnel** - Please include a short description on all proposed personnel to be paid for by these funds. The description should include the FTE, if the hire is regular or casual, title (counselor, lecturer, APT, etc.), their job duties that will benefit the project (cite narrative), the monthly salary and fringe, and the number of months of funding. Please take into consideration the recruitment time for new hires.

  Not applicable.

- **Material & Supplies** - Itemize supplies purchased that cost more than $500 and have a shelf life of 1 year or longer.

  Eight (8) laptop computers with strength/durability features similar to Panasonic Toughbook. Estimate is based on $1200 per laptop.

- **Travel** – Breakdown the *estimated* cost including airfare, lodging, per diem, conference fees, and ground transportation. Include the conference name, description, location, and dates. If possible, include conference flyer and/or agenda.

  Not applicable.

- **Services** – If you know the name of the specific vendor you would like to hire, please include. Also a breakdown of service cost (cost per day, hour, etc.)

  Not applicable.

- **Other** – Includes items such as software, printing, rentals, etc. Each item must be listed and described as to how it will enhance the project.

  Not applicable.

- **Equipment**, whose description is an article of nonexpendable, tangible personal property having a useful life of more than one year and an acquisition cost which equals or exceeds $5,000.

  One (1) Hunter Hawkeye Wheel Alignment system, delivery, installation, and training at $33,900 (based on price quote received).
13. Indicate which Perkins requirements are covered by this proposal? (Check no more than three categories that best describe your proposal):

<table>
<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>✓</td>
<td>1. Building of the efforts of States and localities to develop challenging academic and technical standards and to assist students in meeting such standards, including preparation for high skill, high wage, or high demand occupations in current or emerging professions</td>
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<tr>
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<td>2. Promoting the development of services and activities that integrate rigorous and challenging academic and career and technical instructions, and that link secondary education and postsecondary education for participating career and technical education students</td>
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<td></td>
<td>3. Increasing State and local flexibility in providing services and activities designed to develop, implement and improve career and technical education, including tech prep education</td>
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<td></td>
<td>4. Conducting and disseminating national research and disseminating information on best practices that improve career and technical education programs, services, and activities</td>
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</table>
|   | 5. Providing technical assistance that –
|   | (a) Promotes leadership initial preparation, and professional development at the State and local levels; and
|   | (b) Improves the quality of career and technical education teachers, faculty, administrators and counselors |
|   | 6. Supporting partnerships among secondary schools, postsecondary institutions, baccalaureate degree granting institutions, area career and technical education schools, local workforce investment boards, business and industry, and intermediaries |
|   | 7. Providing individuals with opportunities throughout their lifetimes to develop, in conjunction with other education and training programs, the knowledge and skills needed to keep the United States competitive |

12. Certifications:

I certify that this proposal, budget, and certifications are accurate and complete and that this project will be conducted in accordance to Perkins Policies, Federal, State, and University requirements. I certify that this proposal has been reviewed by the fiscal office.

Proposer’s Signature: _______________________________ Date: _________