

OLD DOMINION UNIVERSITY  
ENGINEERING TECHNOLOGY DEPARTMENT  
214 Kaufman Hall, Norfolk, VA 23529  
PROPOSAL FOR AN ECETDHA MINI-GRANT

**ASEE 08 Convention Workshop: Introduction to the Newly Developed PIC  
Microcontroller Training System and Its Associated Curriculum**

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Associate Professor  
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November 13, 2007

**Abstract:**

This workshop is intended to share a newly designed and developed PIC microcontroller training system and associated curriculum with Engineering Technology Division members and any interested individuals in the ASEE organization. The workshop topic is a project that aims to improve student learning and overcomes obstacles in teaching digital, microprocessor/microcontroller related courses that are delivered through distance learning format. Since this is a NSF funded project, every attendee will receive a full version of the training system hardware and software along with the curriculum for free, which is valued more than \$100.

**Justification:**

This PIC microcontroller training system is a very cost effective and unique arrangement to be implemented in distance learning programs that require hands-on laboratory experience. Even this system is designed for hands-on distance learning classes but it is also perfectly suitable for on-campus implementation. This is a NSF funded project, so all the design and development and manufacturing and material were covered by the project budget, except:

1. ASEE 08 Conference Workshop Customary Charges.
2. The recorded medial (an USB flash Drive) that carries software and curriculum documentations to be given to each workshop attendee.

The purpose of this mini grant proposal is to support the overhead cost of running the ASEE 08 workshop in a way to eliminate any cost to the interested attendees. All the attendees will receive this PIC training system and a flash drive free for evaluation of the project and possible adoption in one's institution.

**Intended Report:**

An abstract of this project for ASEE08 presentation has been submitted for approval. There will be a presentation and an article publication if it is accepted. A report will be generated that summarizes the information provided in this workshop. In addition, there will be a feedback survey on all the attendees of the hardware, software, and curriculum designs in this intended report. It is planned that the report will be in a form suitable for publication in the *Journal of Engineering Technology*.

**Time Line:**

Design and Test of the PIC Training System:	May 2007 - January 2008
Assembly and Testing of the Designed PCB:	January 2008 - February 2008
Preparing the Associated Curriculum:	January 2008 - April 2008
Design and Evaluate the Software:	January 2008 - May 2008
Writing ASEE 08 Presentation Article:	December 2007 - January 2008
Perform the Workshop and Demonstration:	June 2008
Presentation at ASEE 08 Convention:	June 2008
Writing of the Report:	July 2008 - August 2008
Submission of an Article for Publication:	February 2009

**Budget:**

The requested budget of **\$960.00** is to cover ASEE 08 workshop customary charges and the record media, a flash drive, to host all the software and documentation for all the workshop attendees to keep.

Customary Charge by ASEE: Estimated Attendance 24 * \$25.00	\$600.00
Software and Documentation in Flash Drive: 24 * \$15.00	\$360.00
<b>Sub-Total Requested through Grant</b>	<b>\$960.00</b>

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Material Cost of the PIC Training System: 24 * \$100.00	\$2,400.00
Student Labor Cost of Assembly/Test of the PIC Training System: 50 Hours * \$10/Hour	\$500.00
Faculty Time	\$300.00
Supplies and Misc.	\$200.00
Total Cost of Workshop	\$4,360.00

The total request of this mini grant is in the amount of **\$960.00** and the rest will be paid by NSF funded budget items.

## Sunday Workshop Application Form

All workshops must be submitted on the application form located on-line at: (url). Please submit only one workshop application per form.

**The following policies apply for all workshops, no exceptions:**

**Submission Deadline: October 26 2007**

**Notification Deadline: December 3, 2007**

**All workshop applications must be submitted by email to [k.dorman@asee.org](mailto:k.dorman@asee.org) or [p.greenawalt@asee.org](mailto:p.greenawalt@asee.org).**

1. All workshop applications and submissions will be managed electronically; you must have access to the internet and email in order to conduct a workshop.
2. All workshops must be self sustaining financially, that includes, all materials, food and beverage, internet and a/v.
3. Workshops must be subsidized either through ticket revenue, sponsorship or other means. These means must be clearly identified in the application.
4. ASEE assesses a \$25 per attendee fee for all workshops.
5. All workshops will take place on Sunday, June 22<sup>nd</sup> at the Pittsburgh Convention Center.
6. The following three option times are available for workshops:
  - a. Three hour workshop or all day
    - i. 9:00 am to 12:00 noon or,
    - ii. 2:00 pm to 5:00 pm or,
    - iii. All day from 9:00 am to 5:00 pm.
  - b. Dates and Times are not flexible.
7. All workshop requirements, complete speakers names, F&B requests, a/v requests etc, must be finalized by February 1, 2008 or the workshop will be cancelled.
8. No changes or additional requests of any type will be accepted after February 1, 2008. This includes, but is not limited to, time, location, title, description, a/v, food and beverage, etc.
9. If the event is ticketed, you will have until April 1, 2008 to cancel this event due to lack of subscription. After April 1, the workshop is confirmed and any revenue shortfall will be the responsibility of the workshop organizer.
10. All workshops will be set classroom style, (rows of 8' tables with 3 chairs each). Special sets will require a \$500 fee.
11. A/V, Internet and F&B are NOT provided for the Sunday workshops and are an additional cost.
12. Laptop computers are NOT provided for the Sunday workshops and are the responsibility of the presenter.
13. Handouts are the responsibility of the presenter. ASEE does not create, reproduce or distribute handouts.

**The following information is REQUIRED by October 26 2007. No late applications will be accepted:**

Sponsoring Division or Financially Responsible Organization: Old Dominion University

Applicant Full Name: Steve Hsiung

Applicant Full Address: Dept. of Engineering Technology, 214 Kaufman Hall, Old Dominion University, Norfolk, VA 23529

Applicant Telephone: (757)683-4606

Applicant Email Address: shsiung@odu.edu

Title of Workshop: Introduction to the Newly Developed PIC Microcontroller Training System and Its Associated Curriculum

Objective: To solve the distance learning difficulty in implementing hands-on microcontroller related courses, lab experimentations, and project designs.

Description: (100 words or less) These newly designed and developed PIC microcontroller training system and associated curriculum is an attempt to improve student learning and overcome obstacles in teaching digital, microprocessor/ microcontroller related courses that are delivered through distance learning format. Each attendee will receive a full version of the training system hardware and software along with all the curriculum for free, which is valued more than \$100/each.

**Presenter (s) - Please provide preliminary information. Final speaker information is due February 1, 2008.**

1. Name: John Hackworth
2. Affiliation: Old Dominion University
3. Address: Dept. of Engineering Technology, 214 Kaufman Hall, Old Dominion University
4. City, State, Zip: Norfolk, VA 23529
5. Phone Number: (757)683-4421
6. Email Address: jhackwor@odu.edu
  
7. Name: John Ritz
8. Affiliation: Old Dominion University
9. Address: Dept. of Occup & Technical Studies, 228B Educatin Building, Old Dominion University
10. City, State, Zip: Norfolk, VA 23529
11. Phone Number: (757)683-4307
12. Email Address: jritz@odu.edu
  
13. Name: James Eiland
14. Affiliation: Blue Ridge Community College
15. Address: P.O. Box 80, One College Lane
16. City, State, Zip: Weyers Cave, VA 24486
17. Phone Number: 540-231-7200-X2274
18. Email Address: eilandj@brcc.edu

- 19. Name: Russel Puskarick
- 20. Affiliation: Olympic College
- 21. Address: 1600 Chester Ave.
- 22. City, State, Zip: Bremerton, WA 98337
- 23. Phone Number: (360)792-6050-X1610
- 24. Email Address: rpuskarick@oc.ctc.edu

**Estimated Attendance: 24**

**Workshop Time Selections: (choose ONE)**

- Sunday, June 22: 9:00 am to 12:00 noon
- Sunday, June 22: 2:00 pm to 5:00 pm
- Sunday, June 22: 9:00 am to 5:00 pm

**How is workshop going to be financially subsidized?**

- Ticket Revenue      Ticket Amount per person \$ 50.00
- Sponsorship:      \$                      Source:
- Other: Explain:

**If ticket revenue or sponsorship does not cover entire cost, who is the responsible party?**

Name: Steve Hsiung  
 Affiliation: Old Dominion University  
 Address: Dept. of Engineering Technology, 214 Kaufman Hall, Old Dominion University,  
 Norfolk, VA 23529  
 Phone Number: (757)683-4606  
 Email Address: shsiung@odu.edu

**Below is a price list of customary charges in order to calculate workshop costs:**

<b>Item</b>	<b>Total Price</b>
Estimated Attendance: 24      X \$25.00 PP = (required)	\$ 600.00
Meeting Room Special Set Required: Yes? <input type="checkbox"/> No? <input checked="" type="checkbox"/>	
If Yes, set up fee is \$500	\$500
Type of set up requested?	

**Will Audio Visual Equipment be required? Yes:  No:**   
 Check applicable:

<b>Item</b>	<b>Amt</b>	<b>QTY</b>	<b>Total Price</b>
LCD Projector & Table	\$350 Each	0	
6' Screen	\$50 Each	0	

Podium & Mic	\$30	Each	0	
Table Mic	\$30	Each	0	
Lavaliere Mic	\$50	Each	0	
Wireless Mic	\$100	Each	0	
Wireless Internet	\$1500	Per room	0	
1 Hard-line Internet	\$500	Per room	0	
Overhead Projector	\$50	Each	0	
Total AV Cost				\$ 0

**Will Food & Beverage be required? Yes:  No:**

Check applicable:

<b>ITEM</b>	<b>AMT</b>	<b>QTY</b>	<b>Total Price</b>
AM Coffee Only	\$5.00 Per Person		
AM Coffee & Danish	\$10.00 Per Person		
AM Continental Breakfast (Includes fruit and/or yogurt)	\$15.00 Per Person		
AM Full Breakfast (Includes hot item, eggs or French toast, meat selection, etc.)	\$25.00 Per Person		
Box lunch (Sandwich)	\$20.00 Per Person		
Lunch/Full (Hot chicken or pasta entrée - buffet)	\$30.00 Per Person		
PM Sodas & Bottled Water	\$5.00 Per Person		
PM Sodas, Water & Snacks (Snacks, cookies, brownies, granola bars)	\$10.00 Per Person		
Total F&B Cost			\$

**Deadlines:**

Workshop Application Process Open	September 4 – October 26, 2007
Workshop Application Deadline	October 26, 2007
Workshop Notification Deadline	December 3, 2007
Workshop Final Details Deadline	February 1, 2008
Workshop Changes Deadline	March 21, 2008
Workshop Cancellation Deadline	April 1, 2008
Workshop Date	June 22, 2008

If you have any questions, please contact Kat Dorman, 202-331, 3500 or [k.dorman@asee.org](mailto:k.dorman@asee.org).