

## **PROCEDURE TO QUALIFY TO USE THE STUDENT INSTRUMENTATION WORKSHOP**

Student Instrumentation Workshop (SIW) was founded by the Department of Civil and Environmental Engineering (CEE) to help undergraduate and graduate students of CEE in their experimental research (see also: <http://nsel.cee.illinois.edu/org/student.htm>). The SIW is open 24 hours per day and 7 days per week. Following training, each member will have access to the SIW using the University ID.

To use the SIW, formal training and signing of a compliance form are required. The compliance form can be found at the last page of this document. Each new student who would like to use the SIW should contact Gregory Banas (1120c Newmark, 333-5019, [gbanas@illinois.edu](mailto:gbanas@illinois.edu)), who coordinates the training process. There are 3 steps in the training:

1. Orientation. It is offered by Gregory Banas every day between 8:00 a.m. and 4:00 p.m. Orientation covers hand tools, power tools, issues associated with safety in the shop, and organization of the shop. Please contact Gregory Banas to schedule the orientation. It takes between 0.5 and 1 hour.
2. Machine tool training. It is offered by the CEE machine most days either at 08:00 a.m. or 12:30 p.m. With the exception of the lathe, mill, and MIG welder,<sup>1</sup> this step will cover all machine tools we have in the shop, as well as safety issues associated with those machines. Tim Prunkard (1135 Newmark, 333-6913, [prunkard@illinois.edu](mailto:prunkard@illinois.edu)) coordinates this step. Please contact Tim to schedule date and time. It takes between 0.5 and 2 hours, depending upon previous experience.
3. Verification. It is offered by Gregory Banas. It takes about 20 minutes. The purpose of verification is making sure that student understands all tools and safety rules in the shop.

After completion of these 3 steps, a trained student will be granted access to the SIW using their University ID.

### Welder, Lathe, and Mill.

A Welder is available for students who have graduated from CEE-400 (Welding and Joining Processes) offered each year during Fall Semester. Alternatively, a student can receive individual training for the welder under the condition that the student has a prior welding experience.

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<sup>1</sup> There are special requirements for those machine tools, which are listed in the next section:  
Welder, Lathe, and Mill.  
G. Banas. 2009.04.01

## NSEL. Student Instrumentation Workshop

**THE LATHE AND MILL ARE THE NEWEST PURCHASE FOR SIW. THE STUDENT MACHINE SHOP IN SCHOOL OF CHEMICAL SCIENCES OFFERS TRAINING FOR THESE TWO MACHINE TOOLS. IT IS A 16 HOUR CLASS (FOUR SESSIONS AT 4 H/SESSION) CONDUCTED BY MR. TOM WILSON; [thomew@illinois.edu](mailto:thomew@illinois.edu). GREGORY BANAS COORDINATES THIS PROCESS. EACH STUDENT MUST FABRICATE A BRASS WORK PIECE USING BOTH THE LATHE AND MILL; SEE DRAWING BELOW (ALL DIMENSIONS ARE IN INCHES). THIS COST OF THE CLASS IS \$150. IT IS RECOMMENDED THAT PRIOR THE CLASS EACH STUDENT LOG IN TO THE FOLLOWING LINKS: [HTTP://ITS.FVTC.EDU/MACHSHOP2/OPERATIONS/DEFAULT.HTM](http://its.fvtc.edu/MachShop2/OPERATIONS/DEFAULT.HTM) FOR LATHE AND <http://its.fvtc.edu/MachShop3/BasicMill/default.htm> for mill. These links provide fundamental information associated with those two machine tools. BASIC OPERATIONS WILL BE COVERED DURING THE CLASS IN SCHOOL OF CHEMICAL SCIENCES: LATHE - FACING, TURNING, DRILLING AND TAPPING, MILL – SQUARING, CUTTING, AND DRILLING.**

The SIW may be also available to non-CEE students under the following conditions:

1. A letter must be submitted from the student's advisor requesting that the student be allowed to use the SIW. The letter should describe the intended purpose and the duration of the use of SIW by the student, and provide an account #, to which relevant charges can be made. Project must be associated with UIUC.
2. Each request will be reviewed and approved/disapproved by the NSEL Working Committee.
3. If approved the NSEL Working Committee, the SIW supervisor will coordinate the training process of non-CEE students and usage of SIW by those students.
4. An amount of \$200.00 must be paid to the SIW account to compensate for the cost of training and maintenance. If a non-CEE student would like to use the SIW for a longer period of time (more than a month), an amount of \$100.00 must be paid in each consecutive month to the SIW account for maintenance.

### **EXCEPTIONS. THERE ARE TWO EXCEPTIONS FROM THE ABOVE PROCEDURE:**

- 1. MEMBERS OF CHI-EPSILON HONOR SOCIETY. THEY USE SIW ANNUALLY TO FINISH CHI-EPSILON KEYS.**
- 2. MEMBERS OF ST. PATRICK HONOR SOCIETY. STUDENTS FROM COLLEGE OF ENGINEERING USE SIW ANNUALLY TO FINISH DAGGERS, WHICH ARE PART OF ST. PATRICK CEREMONY.**

**MEMBERS OF THOSE TWO GROUPS USE HAND TOOLS (FILES, SAND PAPER, WIRE BRUSH) AND SOME POWER TOOLS (DRILL AND BUFFING WHEEL) DURING OPERATION OF FINISHING CHI-EPSILON KEYS AND ST. PATRICK DAGGERS. THE SIW SUPERVISOR IS RESPONSIBLE FOR SAFETY AND OPERATION TRAINING OF THOSE STUDENTS.**



## STUDENT INSTRUMENTATION WORKSHOP COMPLIANCE FORM

I have been trained with the machine power tools and hand power tools listed in the table below. I will comply with all the safety and operation practices of the SIW outlined during my training process. Also, I have read, understood, and will comply with the rules outlined in the Safety Rules in Student Instrumentation Workshop (see also: <http://nsel.cce.illinois.edu/org/student.htm>). I will take full responsibility for any action that may happen while using the Student Instrumentation Workshop equipment.

### List of machine power tools and hand power tools

Training desired	Equipment	Trained by (Signature, date)
	<b><u>Machine power tools</u></b>	
	Standard shop drill press	
	Electric abrasive cutoff saw	
	Combination belt and disc sander	
	Bench grinder	
	Table saw	
	Vertical band saw	
	Hougen Rotan roach magnetic-base drill	
	<b><u>Hand power tools</u></b>	
	Ingersoll-Rand electric impact wrench	
	DeWalt cordless impact screwdriver	
	Milwaukee portable electric band saw	
	Bosch electric drill	
	DeWalt cordless drill	
	Milwaukee electric right-angle grinder	
	Milwaukee straight-wheel grinder	
	Milwaukee heavy duty electric drill	
	Circular saw	
	Miter saw	

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Last Name (print)

\_\_\_\_\_  
First Name (print)

\_\_\_\_\_  
E-mail Address (print)

\_\_\_\_\_  
16-digit I-card Number

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date Signed