PRISM Microfabrication Laboratory Rules

2/15/10

I have read and understood.

Name_________________________________

Signature______________________________    Date_________________

All users must read through the below information and when they receive their badge will be required to sign off on a copy of the rules to verify that they understand everything. If you have questions regarding the rules please contact Joe Palmer at jpalmer@Princeton.edu.

Rule #1 – your safety
Safety is an overriding rule in all cleanroom activities. All operations must be undertaken with the safety of both the individual user and other users as the primary consideration. Ignorance of the rules, working under “pressure”, lack of common sense, language difficulties, carelessness, and haste are not adequate excuses for unsafe behavior. If you are tired or do not have time to do things correctly and safely, please leave and return later. Anyone violating any safety rule or otherwise compromising his or her personal safety or the safety of the others will be denied access to the cleanroom.

Rule #2 – peer pressure
Your safety in the cleanroom is determined not only by your actions, but by the actions of those around you. Peer pressure can be beneficial; point out rule violations or unsafe behavior immediately to the offenders, as well as later to the cleanroom management. Inappropriate reactions by individuals to such corrections should also be reported. The access of everyone to the cleanroom depends on maintaining a safe working environment. A series of thoughtless chemical violations or a single serious personal injury could result in severe restriction on the cleanroom use or closing of the cleanroom.

Rule #3 – courtesy
The cleanroom is a workplace for over 100 users. The users are not allowed to change common recipes, leave vacuum chambers vented, process unusual samples in equipment restricted to a particular sample type, or leave the equipment in a state unfamiliar to the others. Users should reserve equipment time judiciously.

All unattended chemical bottles, beakers, etc., must be labeled or otherwise warn other users of their contents. Users are required to clean up any work area (counters, equipment, floors) they have been using. This may mean cleaning up areas that have been dirtied by others.

Users are expected to report immediately any problem with the equipment to the cleanroom management and note it in the logbook.

Cleanroom Use

- The cleanroom will be entered and exited by the showers – using his/her OWN proximity card.
- One and only one user will enter the cleanroom shower at a time.
• Everyone must wear a badge and take the whole 15-second air shower.
• No other entrance/door is to be used unless in an emergency situation.
• Users will wear a full cleanroom suit. This will include a hood, tucked into a cleanroom suit, with boots.
• Appropriate eye protection will be worn. The minimum acceptable will be safety glasses. Splash goggles will be worn when working at any hood.
• Suits and hoods will be replaced every seven days of use, or if dirty or torn.
• Boots will not be stored in lockers.
• Undergraduate students can only work during regular business hours Monday through Friday, 9:00 am to 5:00 pm. In addition, during the fall and spring semesters they are allowed to work if monitors are present (typically Monday through Thursday, 5 pm to 10 pm and Saturday, 1 pm to 6 pm)
• Other users can use the facility 24/7 based on restrictions in following sections.

Equipment Use
Only authorized personnel are allowed to use the cleanroom equipment unsupervised.

To become an authorized user you must be trained by a superuser, and given authorization by Mikhail Gaevski, Joseph Palmer, Conrad Silvestre or Pat (George) Watson.

No user will be held responsible for accidental equipment damage if he/she notifies PRISM staff of such damage in a timely manner.

Whenever a piece of equipment is used, the logbook will be filled out without exception.

Reserving Equipment
Authorized users must reserve equipment that they plan on using for longer than 15 minutes (http://poe-nostromo/)

Equipment reservation is limited to 3 consecutive hours of time on most machines. The following exceptions apply:
• PlasmaTherm 790 PECVD - 5 hours (suggested from 8am-1pm and 1-6pm)
• Thermco and Tystar furnaces - 24 hours
• AJA dielectric sputterer - 10 hours
• Angstrom sputterer - 10 hours
• Raith - a maximum of 3 reservations at a time, totaling 24 hours are allowed. No more than 4 hours per session are allowed during business hours of M-F 8 a.m. to 6 p.m.
• Heidelberg - users are allowed to reserve only one session of the DWL66 laser writer at a time.
Any user who has reserved equipment and who does not show up within 15 minutes of the reserved time can be “bumped” from his/her reservation.

A user that does not show up at reserved times or reserves unnecessarily long times violates the courtesy rule.

**Outside User Equipment Reservation**

Industrial and outside academic cleanroom users may only reserve equipment Monday through Friday. On those days, the following limits are placed on the amount of time reserved per tool:

- 9:00 am to 5:00 pm a maximum of 3 hours total
- 5:00 pm to 11:00 pm a maximum of 2 hours total
- 11:00 pm to 9:00 am – no time limit

Extensions will be granted on a case-by-case basis, as some equipment and processes require more time.

**Restricted Equipment & Use of Lab**

All equipment can be used by authorized personnel during normal business hours, Monday through Friday, 9:00 am to 5:00 pm. Otherwise users may only use the cleanroom if a monitor or a buddy is present.

**Monitors**

Monitors are available M-F from 5pm to 10pm and Saturday from 1pm to 6pm when fall and spring classes are in session. They are required to check all users in all cleanroom areas every 30 minutes and fill out a “Monitor sheet”. A monitor must be present in the room if any user is working in any solvent or acid hood, other than the hoods located in the photolithography room.

**Buddies**

A Buddy must be a registered cleanroom user and must be located in the E-Quad at the time of duty. With one exception, he/she does not have to be present in the room, but must check up on the user every 30 minutes, electronically or in person. **Exception:** if the user is working in any solvent or acid hood, other than the hoods located in the photolithography room, the Buddy *must be present* in the room.

**Additional User Duties**

Interested users may serve as superusers or cleanroom committee members. The remaining users are obligated to spend 1 day a year helping out in the cleanroom during the periodic cleanings.

**Guests**
All guests must be cleared by the PRISM Lab Staff *before* entering the cleanroom. Guests are admitted to the cleanroom for the purposes of a tour or observation *only*, no guests are allowed to process devices or use equipment.

**Breaking the Rules**

**First Offense:** Removal of cleanroom privileges for two weeks.

**Second Offense:** Removal of cleanroom privileges for two months.

**Third Offense:** Permanent expulsion from the cleanroom.

The above are MINIMUM penalties.