Syllabus: Scientific Glassblowing CH410/510

Course Description: Course introduces the construction and repair of glassware for scientific purposes. The course starts with a discussion of the properties of glass relevant to glass working. The major tools of glassblowing such as annealing ovens, burners, and lathes are covered. Students obtain practice in fundamental manipulations: straight, tee, and ring seals, bends and coils. This is followed by more complicated projects utilizing several seals, such as condensers. Finally, students choose among a number of advanced topics such as lathe use, vacuum rack construction, and artistic creations.

Prerequisites: None

Grading: To receive a passing grade you must
- Attend all the lecture-discussion-demonstrations
- Complete and log 30 hours of practice work
- Maintain a portfolio of your best practice pieces
- Upon completion of this your grade is computed as follows
  1. Quality of portfolio 90%
  2. Cleanliness of the lab (group grade) 10%

Texts: A number of texts are available for your use in the glass lab. Use these for ideas both in respect to possible projects and as an aid in finding a technique that works for you. A technique that works for one person does not necessarily work for all. So if things are not going well, a little perusal of these books for alternatives may help.

Course Fee: A lab fee will be assessed to cover consumables (gases and glass).

Course Policies
- Logging of Hours: A course logbook will be kept.
- Portfolio: Please maintain a collection of your best work. The quality of the pieces that you kept will be used as the basis of your grade at the end of the course. (This assumes that you have worked and logged at least 30 hours.)
- Cheating: Don’t. As professional scientists you have a special obligation to report data that you obtain accurately, interpret it honestly, and report the sources of your work. Professional scientists do not like cheating or cheaters and will deal with it as severely as possible. I consider myself a professional scientist. In this course the primary modes of cheating are false log entries, passing other peoples pieces as your own, or failure to report when/if you break equipment

Withdrawal: Your are free to withdraw from the course at any time that this is allowed by the university. Students usually withdraw when they get in a position when they cannot reasonably complete the required number of hours. We encourage withdrawal when continuing would jeopardize your performance in other (and more important) courses.

Safety: Most accidents are due to minor burns or cuts, but we have had both burns and cuts that required a trip the emergency room of the hospital. To ensure minimal danger:
1. Never work in the shop alone. The other person need not be a student in the course, just someone who can assist you in an emergency.

2. The door from the shop into the hall must be open to permit calls for help, clear egress, and ventilation.

3. Avoid loose clothing, particularly clothing that may be a fire hazard. Dangling things like ties or hair get caught in lathes then choke people to death.

4. Wear safety glasses.