You want to work in the LCI Clean room.

- You have taken the KSU General Lab Safety course? NO STOP
- What you want to do, you have done before? YES

  - Fill out a Project Request Form
  - Discuss specific needs with Staff
  - Edit Project Request Form
  - Reserve needed equipment
  - Do your work
  - Finalize Project Request Form

- You have taken the LCI Cleanroom Safety class? YES
- You have taken the LCI Cleanroom Safety class? NO

  - Discuss specific needs with Staff
  - Schedule Necessary Training
  - Complete Necessary Training
  - Have Staff assist you with the work
You want to work in the LCI Clean room:

The LCI Cleanroom is a high-tech, environmentally controlled facility with advanced capabilities. Therefore, advanced training is required to gain access and to use the equipment. Before you say you want to use the facility, ask yourself if you need to work in cleanroom area, or if you can use labs and equipment elsewhere to accomplish your task. If you can, you will save yourself a lot of time by not having to go through all the advanced training to be able to enter and work in the cleanroom.

If you determine that you do need to work in the cleanroom, either because your work requires cleanroom space or because you need to use equipment that is only present in the cleanroom, then you need to follow the necessary steps to gain access and proper training relevant to your needs.

Full-time facility staff is available to assist you for these purposes. Contact Bentley Wall for access/training for the use of the two front rooms, or Doug Bryant for access and training in the rest of the facility, including all facility related issues. Should the primary responsible person be unavailable, both staff members can temporarily cover extended responsibility.
You have taken the KSU General Lab Safety course?

All KSU students, faculty and staff who wish to work in a university lab must sit for the KSU general lab safety course presented by KSU Safety Services staff. This course is offered several times a year and sign up is usually required.

Contact your faculty advisor or the building curator to determine the course offering dates.

When you complete the one-day presentation, you will need to make sure that you inform your building curator of your completion of the course so that it will be added to your file. Otherwise, there will be no record of your having completed the course and you will not be able to use university lab space.
You have taken the LCI Cleanroom Safety class?

Cleanroom facility staff have designed a seminar to outline the basic hazards associated with working in our specific cleanroom facility. Information is presented 1-2 times a year in class form, or on a specific individual basis. Normally, it is presented soon after the beginning of the Fall semester each academic year, to allow all the new graduate students to complete this requirement together.

There is an associated short quiz to make sure that potential users have absorbed the safety information. In order to gain access to the facility, each user must pass this test. Sitting for the seminar prior to taking the test is required because not everything presented in the seminar is specifically addressed on the test.
What you want to do, you have done before?

**YES:** If you are an experienced cleanroom user, the path to continue working is simple. You have taken all the necessary seminars, and have received the necessary training for what you have done in the past. Facility staff maintain records indicating who has been trained for which equipment/processes and when the training occurred. If you are going to do work that you have done before then you need only fill out a project request form online ([http://www.lci.kent.edu/](http://www.lci.kent.edu/); MEMBERS; Member Log-in; enter KSU email and Flashline password; Prototype Facility; User Menu; GO Button: Project Request, GO Button.) Click on the calendar icon next to equipment you wish to reserve.

**NO:** If however, you have not been trained or if what you want to do in the cleanroom involves equipment you have not used before or materials/processes that are not considered part of the standard facility processing path, then you will need to discuss these items with facility staff, get additional equipment, process, and materials handling training before going in to work.
Fill out a Project Request Form:

To begin all dialogues between users and facility staff, a project request form needs to be filled out at the start of any work. Project request forms are designed to alert facility staff to immediate, short-term use of the facility so that issues of training, equipment condition, consumables, supplies, etc., can be resolved for each user as needed. Filling out the form tells facility staff what work each user wishes to do, what equipment they will need, and what materials/processes they will use. If there is any issue (equipment out of service, supplies exhausted, extra training required) facility staff can inform users before signing up for equipment and perhaps find alternate pathways to get around temporary blockages. Alternate routes may require additional training, say for example, an alternative piece of equipment is proposed that has not been used before to circumvent a known piece that is out of service.

Once facility staff reviews the submitted project request form, a user will receive an email message authorizing the user to go ahead and reserve time and equipment, or an email requesting a meeting for exchange of additional information. No work can be done without submitting a project request form no matter how many times a task has been done in the past.
Discuss specific needs with Staff:

Anyone who wishes to discuss project needs, facility capabilities, etc., may choose to attend a weekly meeting every Monday at 9 am where all facility staff will be present. This is not required, but it is guaranteed that staff will available at a known location at that time.

Otherwise, in response to the Project Request Form, facility staff may request a meeting with a user if it seems that different equipment, nonstandard processes, or uncommon materials will be needed. In order to deviate from facility standard operating procedures, full process parameters will need to be either disclosed or developed under staff supervision, MSDS sheets will need to be provided by the users if these materials are not standardly present, and sufficient understanding of the associated procedures and hazards will need to be demonstrated through dialogue with facility staff.

It must be considered when working in the facility that other workers will be present who will not be aware of what every other worker is doing. It is the responsibility of the facility staff to guarantee a safe working environment as well as a productive one.
Filling out the Project Request Form:

To find the form go here:

(http://www.lci.kent.edu/; MEMBERS; Member Log-in; enter KSU email and Flashline password; Prototype Facility; Users menu; GO button; Project Request; GO button.)
Filling out the Project Request Form (part2):

Fill in a project title, and check the box most appropriate for the type of request.

In the Description box, enter the basic work you are requesting:

“Need to scribe ITO glass, pattern 1 cm electrodes, apply PI 2555, and assemble 5.0 um cells that are rubbed antiparallel. I need to get about 10 good cells before next Thursday.”

“I only need to plasma etch the ledges on cells I already filled.”

“I just need to scribe some ITO glass that I will then use in my lab.”

“I wish to develop a process using a photoresist that is different than S1818, apply an inorganic barrier layer, use HF to etch the ledges clean, use the Hornell rub machine, and use SU8 to put in 6 um post spacers.”

These requests will be met with different responses from facility staff.
Filling out the Project Request Form (part3):

Fill in the expected end date. This means, indicate when you would like to be done with work you are requesting to do or have done on this project request form. A project request form should be filled out only for short-term work. For example, it is not intended that one form is filled out for scribing ITO glass, that has an end date of four years in the future which is intended to allow for glass scribing at will, any time over the next four years.

The form is intended to assist in scheduling and dialogue between users and facility staff so that the facility may be used in the most efficient way every week. Long term, open-ended plans do not facilitate this interaction.

Submit the form.

The form will be reviewed by facility staff and then either an authorization email will be sent permitting the requested work to be done, or a request for a meeting or more information will be sent.

Once authorization has been granted, reserve needed equipment.
Reserve Needed Equipment:

In order to be able to reserve equipment online, a primary administrator must list you as an independent user for that equipment. This will not occur before necessary training has been completed for each work station. Once training is completed, users will be added automatically.

If you have completed training, to reserve equipment you have been trained to use:  http://www.lci.kent.edu/ MEMBERS; Member Log-in; enter KSU email and Flashline password; Equipment; List & Reserve, GO Button.

Click on the little calendar button to the left of the equipment you wish to reserve. A calendar will come up. Click on the date you wish to work and a list of time slots will come up. Available time slots have selectable buttons (white) and time slots already reserved by others are not selectable (gray).

Check the time slots you wish to reserve. Hit Return button to exit.
Do Your Work:

At the time you reserved, report to the equipment station and do your work. You are expected to follow all general facility safety and specific work station protocols for which you have been trained/authorized.

If you encounter any issues, contact facility staff to help resolve. Users are not authorized to side step issues by modifying/repairing equipment, by attempting to transfer work to different (albeit similar) equipment for which formal training has not been completed, nor to request help from other users who may be present.

At the conclusion of your work, whether you were able to resolve issues or not, it is required that users return to the open project request form and fill in comments in the Remarks section. This is the area where users report any issues with the facility, equipment, supplies, reagents, other users, or any technical difficulties that may have arisen. Reporting these issues will help facility staff take corrective actions for issues of which they may be otherwise unaware. This also helps facility staff modify training to allow for common issues to be addressed and solutions posed during training to help avoid delays in user processing time.
Finalize Project Request Form:

If you encountered no issues, and you were able to successfully complete your work, enter into the Remarks section of the Project Request Form, Work Completed.

Project requests that are completed will be reviewed by facility staff for a final time, issues noted and responses scheduled. Then, completed projects will be removed from the active project list and will no longer be actively reviewed.

Repeat this general process for additional work in the future.