

Tips for success in fabricating devices

1. Be prepared

Before you start using the cleaning room, ask yourself the following questions:

- a. What am I trying to fabricate?
- b. What steps are required?
- c. Which equipment in the cleanroom do I need to use?
- d. What chemicals am I going to use?
- e. Do I have the appropriate glassware, tweezers, masks or sample holders?
- f. What information is missing?

2. Practice, practice, practice!

- a. Get familiar with the machines
- b. Work with spare samples of the same material
- c. Work with a mask with similar features if you cannot use your final mask

3. Ask questions

If you have a problem or are unsure, ask someone who knows and can help. There are no penalties for asking for help.

4. Keep it clean

- a. Always be aware of possible contamination
- b. Store your samples in a clean and dry place
- c. Periodically clean your glassware, tweezers and masks
- d. Each chemical process should have its own specific glassware, do not cross-contaminate your glassware by using it with multiple chemicals

5. Use your lab notebook

- a. Always record date and time
- b. Identify each sample by a label or drawing
- c. Record the process parameters for each run
- d. Note any changes you are making in your process and why

6. Document your sample at each process step

- a. Use the microscopy and other inspection tools
- b. Take notes of what you see
- c. Record the process parameters for each run
- d. Note any changes you are making in your process and why

7. Troubleshoot problems

If something looks different, then the process has changed, so identify ***all*** changes in the process.

- a. Clearly identify the problem to see what could have caused it
- b. Identify any changes in the previous steps
- c. Ask yourself, "What parameters are accounted for?"

8. Know your process

Understand the chemistry and physics behind each step