E-line Protocol

1. Load sample **via loadlock**
2. Follow on-screen instructions until load procedure is complete
3. Pop-up window: Reset UV adjustments. Press OK (unless you want to keep the previous UV alignment, then press cancel)
4. Pop-up window: Re-use previous current parameters. Press cancel. (if you want to keep the same parameters press ok and skip step 6)
5. Adjustments – Drive – Set W (working distance) to 10mm
6. Column Control Choose settings and activate (typically 20kV, 20µm, 10mm for writing & 10kV, 10µm, 10mm for SEM)
7. Open correct wafermap (100mm_ush.wlo)

NOTE: For SEM you may focus and image at this point, for E-beam lithography continue with the following steps:

8. Adjustments – positions – Move to Faraday cup "FC on flat USH". Press GO. Focus on the cup. Zoom in until don't see it's edges.
9. Patterning – Beam current – measure current twice to check beam stability
10. Move to the corner of your sample
11. Adjustments –origin correction – press adjust to define as origin (U=0, V=0)
12. Focus beam
13. Adjustments – Scan manager – Writefield alignment – Manual – execute **three** alignments:
    a. 5µm marks, 100 µm WF
    b. 2µm marks, 100 µm WF
    c. 1µm marks, 100 µm WF
14. Design – open GDS file with your design. View and edit as needed.
15. Drag design file onto wafer map near alignment mark
16. Patterning – patterning parameters – calculator icon – define area dose and auto-calculate all parameters until all text is **black** (red text means parameters are not properly calculated)
17. To create a matrix click on the positions list. The main toolbar will give additional options:
    a. Filter – matrix copy – create matrix of design with varying dose
18. Automation – drag "Beams shutdown" to end of positions list
19. Scan – "all" **to start writing**
20. When lithography is complete unload sample **via loadlock**

DON'T FORGET TO FILL THE LOGBOOK