External Pricing Schedule for FY22 Academic Year – 6/21 to 9/22

Maskmaking – Heidleberg DWL66

- Soda Lime mask – 5” X 5” X 0.09” – LR Chrome
  - $ 350 per mask generated
  - Up to 2 hours write time - $75/hr for extra write time beyond

- Quartz mask – 6” X 6” X 0.12” – LR Chrome
  - $ 550 per mask generated
  - Up to 2 hours write time - $75/hr for extra write time beyond

Dedicated Staff Support

- External Rate - $95/hr

Materials Charges

- Wafers – Not provided/for sale by SMFL

- Chemicals

  The SMFL provides standard photoresist and developer for use on its equipment – the cost (including disposal) is included in the price of the tool.

  Chemicals brought into the SMFL by the customer will be accessed a disposal fee depending on the nature of the waste. Fees will be higher for metal etchants, solvent/acid mixtures, and others that must be sent out for disposal.

Notes

- Users are free to obtain their own supplies, but RIT carries no responsibility to supply storage space for materials stockpiles. Chemicals must be approved and properly shipped before being brought into the SMFL. Users will be charged up front for disposal fees incurred.
- Repair parts for tools and equipment above and beyond normal wear and tear may also be charged back to the user on a cost basis not including SMFL labor.
- Materials charges include but are not limited to consumable chemicals, sputter targets, evaporation sources, photographic film, and quartzware (breakage).
- Incidental materials such as aluminum targets and evaporants (Al, Cu, Cr), standard lithography chemicals, standard CVD and etch gases, bulbs for aligners are covered under the equipment fee schedule.
- The user may be asked to pay a surcharge for equipment/materials usage above and beyond normal usage. This would be negotiated before the work started.
**SMFL Pricing**  - TG – 5/18/21

**Equipment Set Rates**

<table>
<thead>
<tr>
<th></th>
<th><strong>External</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monthly Fee</strong></td>
<td>$100 / Month / User</td>
</tr>
<tr>
<td><strong>Tool Set</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Tier 1 Tools</strong></td>
<td>$75 / hr</td>
</tr>
<tr>
<td><strong>Tier 2 Tools</strong></td>
<td>$125 / hr</td>
</tr>
<tr>
<td><strong>Tier 3 Tools</strong></td>
<td>$190 / hr</td>
</tr>
<tr>
<td><strong>New User Fee</strong></td>
<td>$125 / User</td>
</tr>
</tbody>
</table>

* If a user is actively working on more than one project in the month, then each project is charged the monthly fee for that user.

**New User Fees** (one-time training charge, in-person lab access only)

**Billing Process**

External users will receive a copy of their invoice for comment before the final invoice is sent.

**Notes**

An overnight pumpdown on our PVD tools (processing run occurring the following morning) is charged out at 5 hours.
## Tool Set by Tier Level

### Monthly
- All laundry/Wipes/Labware
- Some share of facilities - DI, Air
- Basic Chemistry – Acetone/IPA
- All Microscopes
- Rudolph Ellipsometer
- CDE Resmap 4 point probe
- Prometrix SM300 Spectramap
- Tencor P2 Profilometer
- Woolum VASE
- Wyko NT1100 Dynamic Profiler

### Tier 1
- CEE 100 Developer
- CEE Resist Coaters (3)
- KS MA150 Aligner
- KS MLB4 Contact Aligner
- LAM 490 Plasma Etcher
- Technics PE2A
- Trion Apollo Asher
- Wet Benches - All

### Tier 2
- ADT Dicing Saw
- AG 610A
- AME P5000 PECVD/RIE
- ASM 150mm LPCVD
- Bruce Furnace Tubes
- CHA Ebeam Evaporator
- CHA Flash Evaporator
- CVC 601 Sputter
- CVC Evaporator Glass Jar
- Denton Au Sputter
- GCA Stepper
- PE4410 Sputter
- STS ASE
- SVG Tracks (2)
- Trion Minilock RIE
- Trion Phantom III ICP RIE
- Trion Phantom III RIE
- Ultratech ALD
- Xactics XeF2 Etcher

### Tier 3
- ASML Stepper
- Heidelberg DWS Laser Writer
- Plasmatherm Apex ICP Etcher
- Trion PECVD
- Varian 350D Implanter