These Rates will carry overhead

<table>
<thead>
<tr>
<th>URnano Machines</th>
<th>Internal Hourly Rate</th>
<th>Internal Hourly Rate with Help</th>
</tr>
</thead>
</table>

**Metrology - Wilmot Lab**

**SWIPE WL**

- **Wilmot Prep Rm 216 Entrance Fee Per Day**
  - $6.00

**Tier 2**

- **SEM** Scanning Electron Microscope
  - **Zeiss-Auriga SEM/FIB**
    - Internal Hourly: $65.00
    - Internal Hourly Rate with Help: $125.00

- **TEM** Transmission Electron Microscope
  - Internal Hourly: $65.00
  - Internal Hourly Rate with Help: $125.00

**Tier 3**

- **FIB** Focused Ion Beam used along with SEM
  - Internal Hourly: $80.00
  - Internal Hourly Rate with Help: $140.00

- **EBL** Electron Beam Lithography
  - Internal Hourly: $80.00
  - Internal Hourly Rate with Help: $140.00

- **50 kV Elionix ELS-S50EX**

**Tier 4**

- **AFM** Atomic Force Microscope
  - Internal Hourly: $22.00
  - Internal Hourly Rate with Help: $82.00

- **UIR** Nicolet Nic-Plan IR Microscope
  - Internal Hourly: $22.00
  - Internal Hourly Rate with Help: $82.00

  - uIR microscope and Magna 470 IR spectrometer

**Cleanroom Tools - Goergen Basement Lab**

**SWIPE CLN**

**Cleanroom Entrance Fee Per Day**

- **$12.00**

**Tier 1 - Vacuum Deposition Tools**

- **AJA** AJA Sputtering Tool
  - Internal Hourly: $45.00
  - Internal Hourly Rate with Help: $105.00

- **ALD** Atomic Layer Deposition
  - Internal Hourly: $45.00
  - Internal Hourly Rate with Help: $105.00

  - Cambridge Nano Tech

- **PVD** PVD 75a Lesker Hybrid Sputter-Evaporation Tool
  - Overnight Pumping Surcharge (after 5pm)
    - Internal Hourly: $45.00
    - Internal Hourly Rate with Help: $105.00

  - Overnight Pumping Surcharge (after 5pm)
    - $90.00 /event

- **PVD** PVD 75b Lesker Straight Sputtering Tool
  - Overnight Pumping Surcharge (after 5pm)
    - Internal Hourly: $45.00
    - Internal Hourly Rate with Help: $105.00

    - Overnight Pumping Surcharge (after 5pm)
      - $90.00 /event

- **RIE** Reactive Ion Etcher Blue Ar-O<sub>2</sub>-CH<sub>4</sub>
  - South Bay RIE-2000
  - **YES** CVD Plasma Oven
    - Yield Engineering Plasma Oven

- **DICER** Dicing Saw
  - **DISCO DAD3221**

- **XSP** Cross Section Polisher
  - **JEOL ion mill IB-19530CP**

**Tier 4 - Cleanroom Tools**

- **MAOAI** Mask Aligner
  - Internal Hourly: $22.00
  - Internal Hourly Rate with Help: $82.00
<table>
<thead>
<tr>
<th>Tier 0 - Cleanroom Free Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megasonics Cleaner</td>
</tr>
<tr>
<td>SHOV</td>
</tr>
<tr>
<td>RCA clean bench</td>
</tr>
<tr>
<td>RCA general acid bench</td>
</tr>
<tr>
<td>SRD Spin Rinse Dryer</td>
</tr>
<tr>
<td>Tier 5 - XPS</td>
</tr>
<tr>
<td>XPS Day Rate 6am - 6pm</td>
</tr>
<tr>
<td>XPS Night Rate (Requires at least 6 hour time block)</td>
</tr>
<tr>
<td>XPS Weekend Rate (Requires at least 20 hour time block)</td>
</tr>
</tbody>
</table>

**Engineer Time/Training Time**

| Engineer Hourly Rate                        | $60.00 |