COLUMBIA NANO INITIATIVE (CNI)

CNI Shared Facility Price List – Industrial Users

Rates effective: June 1st, 2018. All prices are in USD. Please check our website for updates.
- Industrial users will be capped at $4,500 per month per user in the clean room and Nanobeam.
- Inventory items or staff time do not count for capping.

<table>
<thead>
<tr>
<th>Machine</th>
<th>Hourly rate [$]</th>
<th>Max time [hours]</th>
<th>Min time charged [hours]</th>
<th>Staff rate [$]</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCA station</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Litho hood 1 (including spinner)</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Litho hood 2 (including spinner)</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Litho hood 3 (lift off) (including spinner)</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>General Acids hood</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>General Base hood</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Expertech furnace</td>
<td>180</td>
<td>10</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Chemical Mechanical Polishing</td>
<td>165</td>
<td>6</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Angstrom EvoVac System</td>
<td>105</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Angstrom High Vacuum Evaporator</td>
<td>120</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Cambridge NanoTech ALD</td>
<td>99</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>KLA Profilometer</td>
<td>51</td>
<td>2</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Diener Plasma Etch</td>
<td>99</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Edwards Thermal Evaporator</td>
<td>51</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>AJA Metal sputter</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>AJA Direlectric sputter</td>
<td>75</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Heidelberg DWL66+ Laser Writer</td>
<td>99</td>
<td>10</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Heidelberg (3 micron) Laser Writer</td>
<td>84</td>
<td>8</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Spinner 1 (dirty station)</td>
<td>45</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>OXFORD ICP</td>
<td>120</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Oxford PECVD</td>
<td>150</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>CI RIE Oxford</td>
<td>135</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>FI DRIE Oxford</td>
<td>135</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Critical Point Dryer</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>MA6 Mask Aligner</td>
<td>84</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>DUV/MA6 Mask Aligner</td>
<td>99</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>RIE Anatec Plasma Asher</td>
<td>99</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Wire Bonder (Aluminum)</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Wire Bonder (Gold)</td>
<td>84</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Wyko NT9100 Optical Profiler</td>
<td>66</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Nanobeam</td>
<td>165</td>
<td>8</td>
<td>0.25</td>
<td>100</td>
</tr>
<tr>
<td>Parylene Coater</td>
<td>51</td>
<td>3</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Dicing Saw</td>
<td>66</td>
<td>6</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Equipment Name</td>
<td>Quantity</td>
<td>Usage</td>
<td>Cost</td>
<td>Information</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>Nova Nano SEM</td>
<td>75</td>
<td>8</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Beamer</td>
<td>75</td>
<td>8</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Cryogenic R-700X Squid Magnetometer</td>
<td>93</td>
<td>12</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>TA instruments Q500 TGA</td>
<td>54</td>
<td>12</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Agilent Supernova SCXRD</td>
<td>99</td>
<td>10</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Bruker Dimension FastScan AFM</td>
<td>120</td>
<td>8</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Panalytical Xpert3 Powder XRD</td>
<td>69</td>
<td>12</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Phi XPS</td>
<td>99</td>
<td>10</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Renishaw inVia microRaman</td>
<td>51</td>
<td>10</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Woollam Alpha-SE Ellipsometer</td>
<td>51</td>
<td>8</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Agilent 8453 UV/Vis Spectrophotometer</td>
<td>51</td>
<td>10</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Malvern Zetasizer Nano-ZS</td>
<td>66</td>
<td>10</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Signatone Transfer Station</td>
<td>51</td>
<td>5</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Horiba micro-Raman</td>
<td>51</td>
<td>9</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Autofinders</td>
<td>51</td>
<td>9</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>NanoMagnetics ezAFM</td>
<td>51</td>
<td>5</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Agilent GPC</td>
<td>66</td>
<td>5</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>BET</td>
<td>66</td>
<td>9</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>FEI Talos TEM</td>
<td>249</td>
<td>8</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Zeiss Sigma SEM</td>
<td>75</td>
<td>6</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Diamond Saw</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Dimple Grinder</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Grinder-Polisher</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Light Zeiss Microscope</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>PIPS II</td>
<td>75</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Plasma Cleaner</td>
<td>66</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>TEM Bio Samples</td>
<td>66</td>
<td>12</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Microtome</td>
<td>51</td>
<td>4</td>
<td>0.5</td>
<td>100</td>
</tr>
</tbody>
</table>

Some Inventory items (e.g. clean room notebooks, wafers, tweezers, AFM tips, dicer blades etc.) can be purchased for use in the lab for nominal price. Please contact the shared facility staff at cnilabs@columbia.edu for more information.