The IMNI Core Research Facilities each have a separate Rate Schedule designed to offset the annual cost of operating the facility by collecting a fee, based upon usage. Each facility has trained personnel who will provide new users with a facility orientation and instrument tutorial. Continued usage of each facility is based upon a User Agreement, and compliance to the terms stated on that agreement.

Internal Brown users are determined by their ability to provide a Default ORG BAT ID account number from the Brown University Workday System, and have a valid Brown University ID and an Academic Appointment. The Rate shown is direct cost dollars.

### IMNI CORE RESEARCH FACILITY - Rate Schedule for Internal Brown Users

(Effective July 1, 2017 - June 30, 2018 - Rates Subject to Change)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Research Use</th>
<th>Instructional Course Use</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELECTRON MICROSCOPE FACILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The usage calculation method includes actual instrument voltage use; any instrument run time that is less than one hour, defaults to one hour minimum except on the CM20 TEM. Effective 7/1/2009 the minimum default time for a CM20 run will be 30 minutes. The FIB hourly rate is increased by the cost of $8.00 per hour above the usual instrument rate to allow for the cost of GA and Liquid Ion Source and extraction assembly. The 1 hour minimum is applied to FIB reservations that are not cancelled within 24 hours of scheduled use. Sample preparation space and miscellaneous tools are available in the Electron Microscope Facility to authorized users as part of the usage fee. If the BAT ORG ID is pre-set to charge F&amp;A, then it will be applied to the following Internal Rates.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JEOl SEM 845; LEo 1530; Philips CM20, and JEOL STEM 2100F.</td>
<td>$53.00</td>
<td>$48.00</td>
<td>per hour</td>
</tr>
<tr>
<td>FIB/ Helio's</td>
<td>$61.00</td>
<td>$56.00</td>
<td>per hour</td>
</tr>
<tr>
<td>Self-use facility unless specifically requested as part of the agreement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument Assisted Use by Brown Technical Facility Staff (with prior approval). This cost is in addition to the microscope use fee.</td>
<td>$57.00</td>
<td>$57.00</td>
<td>per hour</td>
</tr>
<tr>
<td><strong>NANOTOOLS FACILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bruker-</strong> D8s; Hi Resolution or 2-D X-Ray Diffraction System</td>
<td>$35.00</td>
<td>$35.00</td>
<td>per hour</td>
</tr>
<tr>
<td><strong>Bruker-</strong> EMXplus; Electron Paramagnetic Resonance (EPR) Spectrometer</td>
<td>$25.00</td>
<td>$25.00</td>
<td>per hour</td>
</tr>
<tr>
<td>Asylum – MFP-3D Origin; Atomic Force Microscope</td>
<td>$25.00</td>
<td>$25.00</td>
<td>per hour</td>
</tr>
<tr>
<td>WITEC - A3000M+; Confocal Raman Microscope</td>
<td>$30.00</td>
<td>$30.00</td>
<td>per hour</td>
</tr>
<tr>
<td>Park Systems - XE-Bio; Ion Conductance Microscope and Atomic Force Microscope</td>
<td>$30.00</td>
<td>$30.00</td>
<td>per hour</td>
</tr>
<tr>
<td>Self-use facility unless specifically requested as part of the agreement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument Assisted Use by Brown Facility Technical Staff (with prior approval).</td>
<td>$40.00</td>
<td>$40.00</td>
<td>per hour</td>
</tr>
</tbody>
</table>

**Plus Instrument Time**
### MICROELECTRONICS FACILITY

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Research Use</th>
<th>Instructional Course Use</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clean Room Only Usage</strong> - without the use of any major Instrument use (per day): includes the use of chemicals, spinner, hot plate, hoods without user of any major instruments.</td>
<td>$49.00</td>
<td>$49.00</td>
<td>per day</td>
</tr>
<tr>
<td><strong>Major Instruments</strong> - the use of a major tool includes whatever chemical treatments are necessary.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Photolithography;</em> which includes the use of the spinner, Suiss aligner, microscope, hotplate use of any or all combination for photolithography</td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>Trion - RIE tool – Reactive Ion Etcher</em></td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td>E-Beam Evaporator</td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>Angstrom – Multi-target Sputtering System</em></td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td>Lesker - Lab 18</td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>SPP - ICP-RIE System</em></td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>Cambridge – ALD System – Atomic Layer Deposition</em></td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>Angstrom - Organic Evaporator</em></td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>Plasma-Therm – PECVD/RIE Tool</em></td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td>LPCVD furnace</td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td>Oriel - Aligner</td>
<td>$99.00</td>
<td>$99.00</td>
<td>per use</td>
</tr>
<tr>
<td><strong>Supportive Instruments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dektak - Profilometer</em></td>
<td>$26.00</td>
<td>$26.00</td>
<td>per use</td>
</tr>
<tr>
<td><em>Woollam - Spectroscopic Ellipsometer</em></td>
<td>$26.00</td>
<td>$26.00</td>
<td>per use</td>
</tr>
<tr>
<td>Silicon Thermal processing furnace</td>
<td>$26.00</td>
<td>$26.00</td>
<td>per use</td>
</tr>
<tr>
<td>RTA - Rapid Thermal Annealer</td>
<td>$26.00</td>
<td>$26.00</td>
<td>per use</td>
</tr>
<tr>
<td>Instrument Assisted User <em>(with prior approval)</em></td>
<td>$57.00</td>
<td>$57.00</td>
<td>per hour</td>
</tr>
</tbody>
</table>

Per use – multiple scans on the same sample on the same day count as a single use.

### JEPIS Machine Shop

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Research Use</th>
<th>Instructional Course Use</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Machine shop services (man hours) *</td>
<td>$57.00 + materials</td>
<td>$57.00 + materials</td>
<td>per hour</td>
</tr>
<tr>
<td>* Plus the actual cost of any materials</td>
<td>actual</td>
<td>actual</td>
<td>actual</td>
</tr>
<tr>
<td>JEPIS Labor Overtime *</td>
<td>$82.50</td>
<td>$82.50</td>
<td>per hour</td>
</tr>
<tr>
<td>EDM instrument</td>
<td>$45.00</td>
<td>$45.00</td>
<td>per hour</td>
</tr>
<tr>
<td>Rapid Prototype Instrument (@ $8.00 instrument time plus the cost of materials x3)</td>
<td>$8.00 machine time (+ materials x3)</td>
<td>$8.00 machine time (+ materials x3)</td>
<td></td>
</tr>
</tbody>
</table>