

# Characterization Facility

## University of Minnesota College of Science and Eng. CHARACTERIZATION FACILITY INTERNAL RATES

### Instrument Rates (University of Minnesota)

Hourly user fees are charged to recover tangible equipment and supply costs as well as personnel costs (salary + fringe) related to (1) equipment maintenance and upgrading, (2) user education/communication and outreach, and (3) administrative and IT effort.\* For each instrument rate there is a surcharge for specialist assistance, training, or sample analysis.

There are NO DISCOUNTS ON UNIVERSITY HOLIDAYS unless they fall on a weekend. A 2-business day RUSH is billed at double the standard rates for both staff and instrument time.

These rates are effective as of July 1, 2017, and supersede any rate sheets of earlier effective date.

**NOTE: Evening rates begin at 6:00pm**

<b>Item</b>	<b>Internal</b>
Ion Beam Analysis (IBA)	\$53.00
Jeol 1200EX Transmission Electron Microscope	\$47.40; after 3 hrs, 23.70
FEI Tecnai T12 and FEI G2 Spirit BioTWIN Transmission Electron Microscopes	\$49.50; after 3 hrs, 24.75
FEI Tecnai G2 30 FEG-TEM Transmission electron microscopes	\$72.10; after 4 hrs, eve & weekend, \$36.05
FEI Titan FEG-TEM Transmission electron microscope	\$92.70; after 4 hrs, eve & weekend, \$46.35
FEI Helios NanoLab G4 dual-beam Focused Ion Beam (FIB)	\$61.80; after 4 hrs, eve & weekend, \$30.90
FEG Scanning Electron Microscopes (Jeol 6500, Hitachi S4700 & SU8230)	\$49.50; after 4 hrs, eve & weekend, \$24.75
Cryo EM Surcharge (plus, minimum 5 liters LN2 per hr of operation, recorded separately)	\$20.60 per hr of operation
Ganesha SAXSLAB	\$10.00
D5005, Bruker D8 Advance, Laue Diffractometer	\$27.80
D8 Discover 2d, Microdiffractometer	\$32.50
X-pert	\$20.40; after 4hrs,\$10.20
Scanning Probe Microscopes (SPM, Hysitron Triboscope)	\$21.70
NanoIndenter (NanoXP), Bruker/Hysitron 980 TriboIndenter, Micromechanical Tester (MMT)	\$14.90; after 4 hrs, eve & weekend, \$7.45
FTIR, Contact Angle Meter	\$22.70
Raman	\$27.80

Video Enhanced Microscopes (VEM)	\$19.60
Stylus Profilometer (Tencor)	\$19.60
Spectroscopic Ellipsometer	\$21.60; eve & weekend, \$10.80
Auger (plus 1.5 staff hours required per sample)	\$23.70
XPS/UPS (VersaProbe III)	\$67.60
XPS (SSX 100)	\$45.10
Microtome	\$15.70
Microtome Diamond Knife Surcharge	
Cryo Microtome Surcharge (plus >25 l LN2, recorded separately)	\$5.05 per hr of operation
Evaporation or Sputter Coating (carbon or metal thermal evaporation or metal sputter coating), DV502, MED010, VCR IBC	\$19.60 per evap
Specimen Preparation (mills, coring, polishers, saws)	\$5.05
Specimen Coating (Carbon, sputter, evap)	\$19.60 per evap
Critical Point Dryer	\$24.30 per run
High Pressure Freezer (plus >25 l LN2)	\$26.55 per hr
Freeze Fracture (plus >25 l LN2)	\$46.40 per run
Freeze Substitution & Embedding (2-4 days plus >50 l LN2)	\$15.70 per day
LN2 is billed separately <u>except</u> for cold finger cooling for the FEI TEMs, where the base rate covers the cost of 1 liter per hour.	\$1.65 per liter

## **Specialist Rates**

The rate for specialist time is based upon the nature of the work.

### University of Minnesota (Internal)

Weekdays,  
8am – 5pm

Basic training and assistance:	\$ 57.00/hour
Advanced Training and Basic Analytical:	\$ 86.00/hour
Advanced Analytical:	\$137.00/hour

\*Indirect-cost ("Facilities and Administrative", F&A) recovery funds from faculty grants that pay CharFac user fees are largely NOT allocated to cover costs of type #3 in the CharFac. Substantial central financial support of CharFac, which may in part derive from F&A funds, primarily pays for (i) maintenance contracts with instrument vendors plus (ii) general "cost pool" charges (utilities, etc.).