



Center for
Nanoscale
Systems

Harvard University
FAS • SEAS

Nanofabrication Facilities

Rates (Effective 02/01/24)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
2D-STACKER-01 2D Materials Stacking System	Hour	25.00	32.50	125.00	
ALD-1 Savannah Atomic Layer Deposition ALD-4 Cambridge Nanotech/Ultratech Savannah	Hour	29.00	37.70	120.00	
ALD-2 GEMStar ALD and Pulsed CVD	Hour	29.00	37.70	120.00	
ALD-3 Philippe-ALD	Hour	29.00	37.70	120.00	
CD-2 Critical Point Dryer	Per 15 Min	15.00	19.50	100.00	
CVD-3 STS PECVD	Hour	50.00	65.00	325.00	
CVD-5, 9, 10 Atmospheric Furnace Tubes	Hour	30.00	39.00	195.00	
CVD-6, 7, 8 Low-Pressure Furnace Tubes	Hour	50.00	65.00	325.00	
CVD-11, 13 Low-Pressure Furnace Tubes	Hour	50.00	65.00	325.00	
CVD-14 Oxford PlasmaPro 100 ICP-CVD	Hour	50.00	65.00	325.00	
DOE-1 Deep Oxide Etcher	Hour	50.00	65.00	325.00	
EE-4 Denton e-beam Evaporator	Hour	50.00	65.00	325.00	
EE-5 PVD E-Beam Deposition System	Hour	50.00	65.00	325.00	
EL-1 Raith-150 e-beam Lithography	Hour	55.00	71.50	290.00	
EL-4 Elionix e-beam Lithography	Hour	55.00	71.50	345.00	
EL-5 Elionix e-beam Lithography	Hour	60.00	78.00	390.00	
EL-6 Elionix HS50	Hour	60.00	78.00	390.00	
EL-7 Elionix BODEN 150	Hour	60.00	78.00	390.00	
ES-4 Woollam RC2 Spectroscopic Ellipsometer	Hour	10.00	13.00	65.00	
FCB-2 Finetech Sigma	Hour	30.00	39.00	195.00	
IBE-1 Intlvac Nanoquest II IBE	Hour	15.00	19.50	260.00	
MET-05 Hall / Van der Pauw	Hour	45.00	58.50	130.00	
MET-36 FLX-2320-S Thin Film Stress Measurement	Hour	22.00	28.60	60.00	
OL-7 AS200 i-Line Stepper	Hour	53.00	68.90	293.00	



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OL-9 Nanoscribe	Hour	30.00	39.00	195.00	
OL-10 Heidelberg MLA	Hour	35.00	45.50	195.00	6
OL-11 Maskless Aligner MLA-2	Hour	35.00	45.50	195.00	6
OL-12 uMLA Tabletop Maskless Aligner	Hour	35.00	45.50	195.00	6
PB-2 Lakeshore 1.5K Probe Station	Hour	45.00	58.50	130.00	9
RIE-01 South Bay RIE	Hour	25.00	32.50	80.00	
RIE-07 Unaxis Shuttleline ICP RIE	Hour	45.00	58.50	290.00	
RIE-08 STS ICP RIE	Hour	50.00	65.00	325.00	
RIE-10 Rapier DRIE	Hour	55.00	71.50	325.00	
RIE-11 Plasma-Therm Diamond RIE	Hour	15.00	19.50	230.00	
RIE-12 Matrix Plasma Asher	Hour	25.00	32.50	130.00	
RIE-13 Oxford PlasmaPro 100 Cobra 300	Hour	50.00	65.00	260.00	
RIE-15 Samco RIE-10NR Etching System	Hour	40.00	52.00	260.00	
RTP-2, 3 Rapid Thermal Processors	Hour	30.00	39.00	100.00	
SEM-10 Hitachi SU8230 SEM	Hour	40.00	52.00	260.00	
SP-2, SP-3 6-target / 3-target Sputtering Systems	Hour	50.00	65.00	325.00	
SP-6 Quorum Q150T Sputtering System	Hour	40.00	52.00	260.00	
SPM-2 Asylum AFMs	Hour	35.00	45.50	165.00	
SPM-6 Cypher-AFM	Hour	35.00	45.50	165.00	
SPM-12 Jupiter AFM	Hour	25.00	32.50	125.00	
SW-2 Loomis Scriber	Hour	24.00	31.20	130.00	
SW-4 Fusion Splicer FSM 100P	Hour	45.00	58.50	290.00	10
SW-5 Disco Dicing Saw	Hour	30.00	39.00	130.00	14
TE1, TE3, TE4, TE5, EE3 Evaporators	Hour	15.00	19.50	65.00	7
WB-2 EVG 501 Wafer Bonder	Hour	20.00	26.00	100.00	



Nanofabrication Facilities
Rates (Effective 02/01/24)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
WB-3 Wedge and Ball Bonder	Hour	30.00	39.00	195.00	
WB-4 Wedge and Ball Bonder 2	Hour	30.00	39.00	195.00	
WS-02 Layout BEAMER/LAB software	Hour	30.00	39.00	195.00	
XEF2-1 Xactix e2 XeF2 Etch System	Hour	25.00	32.50	80.00	
NF-02 General Nanofab On-Site Staff Assistance	Hour	75.00	97.50	165.00	4, 11
NF-03 General Nanofab Remote Staff Assistance	Hour	120.00	156.00	220.00	4, 10, 11
NF-07 General LISE Cleanroom Access (Max Charge 3 Hours per Day)	Hour	30.00	39.00	90.00	5, 12, 13

NOTES

- Self-use is charged at the base rate.
- The on-site or remote staff assistance rates are in addition to any equipment rate.
- In addition to actual time used, users will be charged for all unused time reserved in the Scheduling Tool.
- CNS staff assistance for all equipment training and certification, preparation of samples, or use of tools not listed above is charged at the General Staff Assistance rate.
- General LISE Cleanroom Access fee is charged for all entries up to the daily maximum. The General Access fee also covers all cleanroom tools not otherwise listed on the rate sheet as having a separate charge.
- Does not include masks or wafers. Available from staff for additional fee.
- Users need to provide their own materials.
- The Non-Harvard Academic rates are 30% higher than the Harvard rates to cover the additional overhead costs resulting from invoicing and tracking payments for those not using an internal Harvard account code.
- User must bring their own liquid helium (see tool web page for details).
- Staff support is required, additional fee.
- Assisted labor billed as NF-02 and Remote assistance labor billed as NF-03.
- General LISE Cleanroom Access Fee is not charged for Remote Staff Assistance usage.
- Harvard users monthly volume discount threshold is 35 hours/user and after cap level is reached, additional qualifying expenses are billed at 50% of base rate. Only Harvard users are eligible for this Monthly Cleanroom Volume Discount.
- Daily room charges (G05, G06) are applied in addition to separate hourly or per use tool charges.
- Rates are subjected to change without notice.



Imaging and Analysis Facilities

Rates (Effective 02/01/24)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
APT-01 3D Atom Probe	Hour	50.00	65.00	250.00	6
BIO-TEM-1 Sectioning	Hour	100.00	130.00	400.00	10
BIO-TEM-2 Sample Embedding	Hour	100.00	130.00	400.00	10
CD-3 Critical Point Dryer, Tousimis 931 GL	Per 15 Min	15.00	19.50	100.00	5
FIB-4 FEI Helios 660	Hour	90.00	117.00	490.00	
FIB-6 Zeiss Crossbeam FIB	Hour	90.00	117.00	490.00	
GLC-01 VitroTEM GLC Encapsulation System	Sample	350.00	455.00	1,750.00	
HAR-008 Plasma Cleaner	Hour	40.00	52.00	130.00	
HAR-017 Ultramicrotome	Hour	20.00	26.00	130.00	5
HAR-027 JEOL 2100 TEM	Hour	55.00	71.50	300.00	
HAR-039 1040 NanoMill	Hour	20.00	26.00	130.00	5
HAR-040 Diener/Femto Plasma Cleaner	Hour	40.00	52.00	130.00	5
HAR-043 Cryoplunge	Per 15 Min	30.00	39.00	100.00	5
HAR-049 Cross-section Polisher	Hour	30.00	39.00	130.00	5
HAR-052 EMS Carbon Coater	Per 15 Min	20.00	26.00	130.00	5
HAR-053 EMS 150T S Metal Sputter Coater	Per 15 Min	20.00	26.00	130.00	5
HAR-054 Gatan 691 Precesion Ion Mill	Hour	20.00	26.00	130.00	5
HAR-055 Vitrobot-Cryoplunge	Hour	10.00	13.00	65.00	5
HAR-065 Baltec MED020 Cryo Preparation System	Per 15 Min	20.00	26.00	130.00	5
LEEM-1 SPECS Aberration Corrected Low Energy Electron Microscope	Hour	50.00	65.00	250.00	
SEC-BIO-TEM-3 SEC Sectioning	Hour	100.00	130.00	400.00	11
SEC-BIO-TEM-4 SEC Sample Embedding	Hour	100.00	130.00	400.00	11
SEC-CD-4 Critical Point Dryer Tousimis 931 GL (SEC)	Per 15 Min	22.50	29.25	115.00	11
SEC-HAR-037 Fischione 1010 Dual Beam Ion-Mill	Hour	30.00	39.00	150.00	11
SEC-HAR-059 Allied Polisher (SEC)	Hour	30.00	39.00	150.00	11
SEC-HAR-060 Allied Precision Low Speed Saw (SEC)	Hour	20.00	26.00	100.00	11
SEC-HAR-061 EMS 150T ES Sputter/Carbon Coater	Per 15 Min	30.00	39.00	150.00	11
SEC-HAR-062 Leica UltraMicrotome SEC	Hour	30.00	39.00	150.00	11
SEC-HAR-063 Leica Cryo-UltraMicrotome SEC	Hour	30.00	39.00	150.00	11



Imaging and Analysis Facilities

Rates (Effective 02/01/24)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
SEC-HAR-064 Vitrobot	Hour	15.00	19.50	75.00	11
SEC-HAR-068 ACE 600 with VCT500 Cryo Sample Prep	Per 15 Min	30.00	39.00	150.00	11
SEC-SEM-12 Zeiss Gemini 360 FE-SEM SEC	Hour	47.00	61.10	255.00	11
SEC-TEM-12 Hitachi 7800 TEM	Hour	50.00	65.00	300.00	11
SEC-TEM-13 JEOL F200 TEM	Hour	55.00	71.50	320.00	11
SEM-8 FESEM Ultra Plus	Hour	47.00	61.10	255.00	
SEM-11 JEOL 7900F SEM	Hour	47.00	61.10	255.00	
SEM-13 Zeiss Gemini 360 FE-SEM	Hour	47.00	61.10	255.00	
SEM-14 Zeiss Gemini 560 FE-SEM	Hour	47.00	61.10	255.00	
TEM-9 FEI Tecnai Arctica CryoTEM	Hour	60.00	78.00	420.00	9
TEM-11 JEOL ARM STEM	Hour	75.00	97.50	390.00	
TEM-14 Hitachi HF3300(S) Megascop	Hour	75.00	97.50	390.00	
General Imaging Staff Assistance					
HAR-031 General Imaging On-Site Staff Assistance	Hour	75.00	97.50	165.00	4, 7
HAR-032 General Imaging Remote Staff Assistance	Hour	165.00	214.50	220.00	4, 7
HAR-033 B15A (sample prep) Room Entry Charge	Day	40.00	52.00	195.00	5
MSN-G05 Bio-Materials Facility	Day	40.00	52.00	195.00	5
SEC-HAR-066 SEC Imaging Onsite Staff Assistance	Hour	75.00	97.50	165.00	4, 13
SEC-HAR-067 SEC Imaging Remote Staff Assistance	Hour	165.00	214.50	220.00	4, 13

NOTES

1. Self-use is charged at the base rate.
2. The on-site or remote staff assistance rates are in addition to any equipment rate.
3. In addition to actual time used, users will be charged for all unused time reserved in the Scheduling Tool.
4. CNS staff assistance for all equipment training and certification, preparation of samples, or use of tools not listed above is charged at the General Staff Assistance rate.
5. Daily room charges (B15A, G05, G06) are applied in addition to separate hourly or per use tool charges.
6. Minimum 6 hours reservation required.
7. Assisted labor billed as HAR-031 and Remote assistance labor billed as HAR-032.
8. The Non-Harvard Academic rates are 30% higher than the Harvard rates to cover the additional overhead costs resulting from invoicing and tracking payments for those not using an internal Harvard account code.
9. Data processing requires minimum 24 hours reservation.
10. Staff assisted use ONLY and rate includes staff time.
11. Tools with prefix "SEC" are all located in ALLSTON.
12. No room charge for tools located in ALLSTON.
13. SEC Assisted labor billed as SEC-HAR-066 and SEC Remote assistance labor billed as SEC-HAR-067.
14. Usage bill per SAMPLE
15. Rates are subjected to change without notice.



Nanomaterials Facilities

Rates (Effective 02/01/24)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
3DP-1 Makerbot 3D printer 3DP-2 Form 2 SLA 3D printer 3DP-4 Form 3Plus 3D Printer	Hour	20.00	26.00	65.00	5
BET-2 3 Flex Surface Characterization	Hour	2.00	2.60	13.00	5
BIO-13 Synergy Plate Reader	Hour	28.00	36.40	100.00	5
LZR-006 White Light Laser	Hour	10.00	13.00	65.00	
LZR-010 Helix 75W Laser Cutter	Hour	30.00	39.00	130.00	5
MET-15 Bruker FT-IR Microscope MET-23 Nicolet iS50 FTIR Spectrometer	Hour	37.00	48.10	195.00	
MET-14 UV-VIS MET-22 Cary 7000 UMS	Hour	37.00	48.10	195.00	
MET-17 Horiba Multiline Raman Spectrometer MET-21 Hyperspectral Darkfield Raman MET-24 Multiphoton Microscope	Hour	35.00	45.50	230.00	
MET-25 Fluorescence Spectrophotometer	Hour	37.00	48.10	195.00	
NPF-10 Malvern Zetasizer Nano ZS	Hour	30.00	39.00	65.00	5
SEC-MET-26 DMA1-STAR	Hour	37.00	48.10	185.00	8
SEC-MET-27 Nicolet iS-50 FT-IR	Hour	37.00	48.10	185.00	8
SEC-MET-28 LabRam Soleil Raman Microscope	Hour	35.00	45.50	175.00	8
SEC-MET-29 Discovery TGA 550	Hour	37.00	48.10	185.00	8
SEC-MET-30 Discovery DSC 250	Hour	37.00	48.10	185.00	8
SEC-MET-31 HR 20 Discovery Hybrid Rheometer	Hour	37.00	48.10	185.00	8
SEC-MET-32 Nanoindenter	Hour	35.00	45.50	175.00	8
SEC-MET-33 Quartz Crystal Microbalance	Hour	30.00	39.00	150.00	8
SEC-MET-34 Magritek Spinsolve 80 Carbon NMR	Hour	20.00	26.00	100.00	8
SEC-MET-37 Droplet Lab Tensiometer	Hour	37.00	48.10	185.00	8
SEC-NPF-11 Zetasizer Pro	Hour	37.00	48.10	185.00	8
SEC-PB-3 Signatone Probe Station	Hour	20.00	26.00	100.00	8
SEC-PL-9 Optical Interferometric Profiler	Hour	30.00	39.00	150.00	8
SEC-PL-10 Contact Stylus Profiler	Hour	20.00	26.00	100.00	8
SEC-SC-8 Spin Coater	Hour	25.00	32.50	125.00	8
SEC-SLF-3 FlackTek Speed Mixer	Hour	30.00	39.00	150.00	8
SEC-SLF-4 Diener Plasma Cleaner	Hour	20.00	26.00	100.00	8
SEC-SMC-2 Keyence VHX-7000 Optical Microscope	Hour	20.00	26.00	100.00	8



Nanomaterials Facilities

Rates (Effective 02/01/24)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
SEC-SPM-13 JPK Nanowizard AFM	Hour	45.00	58.50	225.00	8
SLF-4 Transparency Photomask Writer	Hour	30.00	39.00	195.00	
SPM-4 Witec NSOM	Hour	25.00	32.50	165.00	
SPM-8 PIFM Photo Induced Force Microscope	Hour	25.00	32.50	165.00	
SPM-11 Neaspec Scattering Near-field Optical Microscope	Hour	35.00	45.50	230.00	
XRA-002 X-Tek HMXST 225 MicroCT	Hour	25.00	32.50	200.00	
XRA-003 XRF	Hour	30.00	39.00	130.00	
XRA-008 K-Alpha+ XPS	Hour	35.00	45.50	195.00	
XRA-009 Thermo Scientific Nexsa XPS	Hour	55.00	71.50	360.00	
XRA-010 Zeiss X-ray Microscope	Hour	75.00	97.50	490.00	
MSF-044 General Materials On-Site Staff Assistance					
MSF-044 General Materials On-Site Staff Assistance	Hour	75.00	97.50	165.00	4, 6
MSF-045 General Materials Remote Staff Assistance					
MSF-045 General Materials Remote Staff Assistance	Hour	165.00	214.50	220.00	4, 6
MSN-G05 Bio-Materials Facility					
MSN-G05 Bio-Materials Facility	Day	40.00	52.00	195.00	5
MSN-G06 Chemical Nanotechnology Lab					
MSN-G06 Chemical Nanotechnology Lab	Day	35.00	45.50	165.00	5
SEC-MSF-053 SEC Materials Onsite Staff Assistance					
SEC-MSF-053 SEC Materials Onsite Staff Assistance	Hour	75.00	97.50	165.00	4, 10
SEC-MSF-054 SEC Materials Remote Staff Assistance					
SEC-MSF-054 SEC Materials Remote Staff Assistance	Hour	165.00	214.50	220.00	4, 10
SMC-001 Soft Materials Cleanroom					
SMC-001 Soft Materials Cleanroom	Day	25.00	32.50	162.50	

NOTES

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4. CNS staff assistance for all equipment training and certification, preparation of samples, or use of tools not listed above is charged at the General Staff Assistance rate.
5. Daily room charges (G05, G06) are applied in addition to separate hourly or per use tool charges.
6. Assisted labor billed as MSF-044 and Remote assistance labor billed as MSF-045
7. The Non-Harvard Academic rates are 30% higher than the Harvard rates to cover the additional overhead costs resulting from invoicing and tracking payments for those not using an internal Harvard account code.
8. Tools with prefix "SEC" are all located in ALLSTON
9. No room charge for tools in ALLSTON
10. SEC Assisted labor billed as SEC-MSF-053 and SEC Remote assistance labor billed as SEC-MSF-054
11. Rates are subjected to change without notice