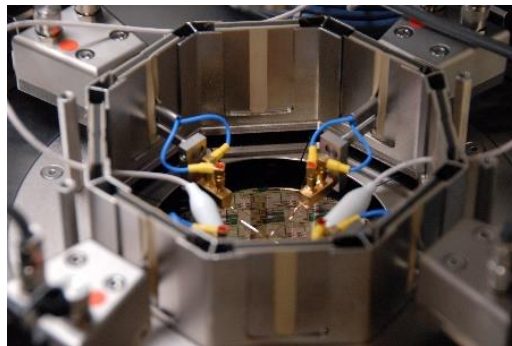
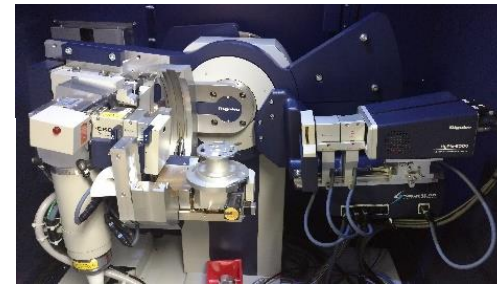
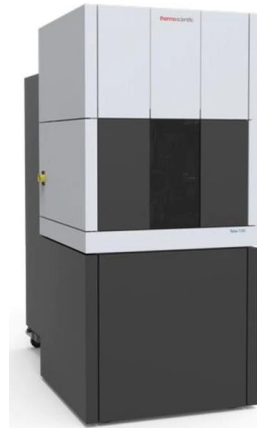


Analysis Research Service Center (ARSC)

ARSC user rates-effective 5/1/23

Fee description	comments	external	internal
Tier 1 hourly equipment fee	per piece of equipment, same rate for training	\$ 30	\$ 10
Tier 2 hourly equipment fee	per piece of equipment, same rate for training	\$ 45	\$ 15
Tier 3 hourly equipment fee	per piece of equipment, same rate for training	\$ 75	\$ 25
Tier 4 hourly equipment fee	per piece of equipment, same rate for training	\$ 105	\$ 35
Tier 5 hourly equipment fee	per piece of equipment, same rate for training	\$ 150	\$ 50
Tier 6 hourly equipment fee	per piece of equipment, same rate for training	\$ 225	\$ 75
Monthly project cap*	external soft cap: rate=internal after cap	\$ 3,500.00	\$ 700.00
Monthly project minimum charge	only billed when facility is accessed	\$ 500	\$ 100

*excludes purchased consumables (e.g. specialty chemicals, deposition materials, substrates, tweezers, notebooks, etc.)



ARSC Equipment Tiers and Consumables

ARSC Consumables Charges	
	External
FIB	\$7.48/hour
Gold	\$4.50/run
Iridium	\$14.95/run
1 run = 2 nm of Iridium or Gold	
Paraffin Embedding Center	\$15.05/hr
Quartz 8 mm perpendicular sample holder	\$224.25/ea
Quartz 8 mm transverse sample holder	\$194.35/ea
Boron Nitride Spacer	\$451.49/ea
Boron Nitride Cup	\$367.77/ea
PCTFE Spacer (threaded)	\$197.34/ea
PCTFE Cup (threaded)	\$98.67/ea
AFM Tips Type A, HQ.NSC14/AI BS, 160kHz, 5 N/m, 125 µm	\$16.45/ea
AFM Tips Type D, HQ.NSC15/AI BS, 325kHz, 40 N/m, 125 µm	\$26.91/ea
AFM Tips Type E, HQ.NSC19/AI BS, 65kHz, 0.5 N/m, 125 µm	\$26.91/ea
AFM Tips Type F, RTE SPA-525, 525 kHz, 200 N/m, 125 µm	\$49.34/ea
AFM Tips Type K, HQ.NSC14/Pt, 160kHz, 5 N/m, 125 µm	\$25.42/ea
AFM Tips Type L, HQ.NSC15/Pt, 325kHz, 40 N/m, 125 µm	\$28.41/ea
AFM Tips Type P, PtSi-FM, 75 kHz, 2.8 N/m, 225 µm	\$198.84/ea
PELCO® Center-Marked Grids, 200 mesh, Nickel	\$43.48/100 grids
PELCO® Slot Grids, 1 x 2mm, Molybdenum	\$137.78/25 grids
PELCO® Slot Grids, 1 x 2mm, Aluminum	\$166.00/25 grids
PELCO® FIB Lift-Out TEM Grids, 2 wide posts, copper	\$129.40/100 grids
Carbon Type-B, 200 mesh TH, Nickel	\$174.30/50 grids
Lacey Formvar/Carbon, 200 mesh, Copper approx. grid hole size: 97µm	\$195.88/50 grids
PELCO® TEM Grid Storage Box	\$7.80/ea

For internal consumables, divide external by 1.495

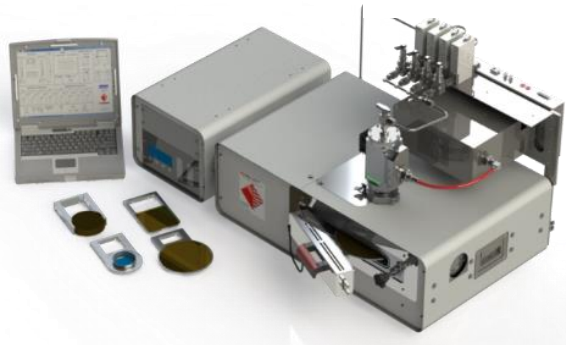
ARSC FY23 Equipment Tier & Average Training Times Texas State University		
Equipment Name	Equipment Tier	Approximate Training Time (hrs)
Linear Four Point Probe	1	2
Hermes	1	2
Pelco Dimpler	1	2
Ultrasonic Disk Cutter	1	2
UV-Vis Spectrometer	1	2
Wire Saw	1	2
Wire Bonder	1	2
Surface Profilometer	2	2
Critical Point Dryer	2	2
Cronus	2	2
Leica Cryotome	2	4
Ellipsometer	2	2
FTIR	2	2
Hirox Digital Microscope	2	2
Glass Knife Maker	2	2
Imaging Sputter Coater - Au, Ir, C*	2	2
Leica TXP Microscopy Sample Prep System	2	2
Optical Microscope	2	2
XRF	3	4
Raman-AFM	3	4
VSM	3	6
Argon Polisher	4	2
AFM	4	4
XRD	4	4
Dynacool PPMS	5	6
ICP-MS	5	6
Nexsa XPS	6	6
FV3000 Laser Scanning Confocal Microscope	5	6
SEM	6	6
Talos TEM	6	6
Leica Cryo-ultramicrotome	2 for room temp, 3 for cryo	4
JEOL SEM	4 for standard, 5 for CL	4

Nanofabrication Research Service Center (NRSC)

NRSC user rates-effective 5/1/23

Fee description	comments	external	internal
Daily access fee per user	unlimited entry/re-entry 00:00-24:00 for the date accessed	\$ 30	\$ 10
Tier 1 hourly equipment fee	per piece of equipment, same rate for training	\$ 45	\$ 15
Tier 2 hourly equipment fee	per piece of equipment, same rate for training	\$ 60	\$ 20
Tier 3 hourly equipment fee	per piece of equipment, same rate for training	\$ 75	\$ 25
Tier 4 hourly equipment fee	per piece of equipment, same rate for training	\$ 90	\$ 30
Tier 5 hourly equipment fee	per piece of equipment, same rate for training	\$ 105	\$ 35
Monthly project cap*	external soft cap (internal rate after cap)	\$3,500.00	\$700.00
Monthly project minimum charge	only billed when facility is accessed	\$ 500	\$ 100

*excludes purchased consumables (e.g. specialty chemicals, deposition materials, substrates, tweezers, notebooks, etc.)



NRSC Equipment Tiers and consumables costs

Consumable	unit	internal \$/unit	external \$/unit
100mm dia Si test grade wafer	ea	\$ 9.00	\$ 13.46
Gold PVD	500 Angstroms	\$ 35.00	\$ 52.33
Platinum PVD	500 Angstroms	\$ 35.00	\$ 52.33
cleanroom notebook	ea	\$ 10.00	\$ 14.95
wafer tweezers	ea	\$ 36.00	\$ 53.82
diamond scibe	ea	\$ 17.00	\$ 25.42
kapton tape	roll	\$ 9.00	\$ 13.46

Equip	Module	Tier
NRSC Teaching Bay SS Hood	Etch	0
NRSC Vacuum Oven	Thermal	0
NRSC Teaching Bay Four Point Probe	Metrology	1
NRSC Axiotron Microscope	Metrology	1
NRSC Olympus Microscope	Metrology	1
NRSC Oxidation Furnace-Dry	Thermal	1
NRSC Oxidation Furnace-Wet	Thermal	1
NRSC HMDS Oven	Lithography	1
NRSC Chimera wet hood	Etch	1
NRSC 3-Zone Tube Furnace	Thermal	2
NRSC Teaching Bay Lithography Stations	Lithography	2
NRSC Teaching Bay PVD	Deposition	2
NRSC Teaching Bay NRP-4000 Etch/PVD tool	Etch/Deposition	2
NRSC Hydra wet hood	Etch	2
NRSC Probestation (Zeus)	Metrology	2
NRSC PE50 O2 Plasma Asher	Etch	2
NRSC Teaching Bay F20 Filmetrics	Lithography	2
NRSC Teaching Bay N-Type (P) Doping Furnace	Thermal	2
NRSC Teaching Bay P-Type (B) Doping Furnace	Thermal	2
NRSC Teaching Bay Etch Station	Etch	2
NRSC F50 FILMETRICS	Metrology	2
NRSC Surface Profilometer	Metrology	3
NRSC PECVD	Deposition	3
NRSC Wafer Bonder	Lithography	3
NRSC SuSS MJB4 Contact Aligner	Lithography	3
NRSC RTP	Thermal	3
NRSC Xanthos Hood	Lithography	3
NRSC AJA Magnetron Sputter	Deposition	4
NRSC PEALD	Deposition	4
NRSC Oxford ICP/RIE	Etch	5
NRSC Ebeam Evaporator	Deposition	5