

UNIVERSITY OF LOUISVILLE
MICRO/NANO TECHNOLOGY CENTER RATES
RATES EFFECTIVE FOR JUNE 1, 2023



The link below provides access information to the MNTC.

<http://louisville.edu/micronano/users/how-to-become-a-user>

Daily Access Fee for the Cleanroom: Internal User: \$15/day External User: \$40/day

Cleanroom Equipment Usage Fee: The usage rates are defined below for internal users, external users and services provided by MNTC engineering personnel. *Caps are no longer part of the MNTC's rate structure due to regulatory compliance guidelines.*

Equipment	Internal Rate	External Rate	Internal MNTC Labor Rate	External MNTC Labor Rate
Dektak Profilometer	\$0.35/min	\$0.55/ min	\$70/hour for training and labor (does not include equipment rate)	\$105/hour for training and labor (does not include equipment rate)
Filmetrics Film Measurement System	\$0.35/min	\$0.55/ min		
Toho Thin Film Stress Measurement	\$0.35/min	\$0.55/ min		
Spinners (Photoresist & PDMS spinners)	\$0.35/min	\$0.55/ min		
Ultrasonic Bath	\$0.35/min	\$0.55/ min		
Goniometer	\$0.35/min	\$0.55/ min		
Zeiss Axioscope Optical Microscope	\$0.35/min	\$0.55/ min		
Flip Chip Bonder	\$0.70/min	\$1.05/min		
QFI Thermal Imaging System	\$0.70/min	\$1.05/min		
Zygo Optical Laser Profilometer	\$0.70/min	\$1.05/min		
Vase Ellipsometer	\$0.70/min	\$1.05/min		
Rapid Temperature Processing (RTP/RTA)	\$0.70/min	\$1.05/min		
Ball /Wedge Bonder	\$0.80/min	\$1.20/min		
Hi-Speed Camera	\$0.80/min	\$1.20/min		
March RIE	\$0.80/min	\$1.20/min		
Ultramicrotome	\$0.80/min	\$1.20/min		
ABM Mask Aligner	\$0.80/min	\$1.20/min		
Molecular Vapor Deposition (MVD)	\$0.90/min	\$1.35/min		
Suss Wafer Bonder	\$0.90/min	\$1.35/min		
QFI Thermal Imaging System	\$0.90/min	\$1.35/min		
Oxford PECVD	\$0.95/min	\$1.45/min		
SEM Sputter Coater	\$0.95/min	\$1.45/min		
Lesker E-beam Evaporator **	\$0.95/min	\$1.45/min		
Lesker PVD 75**	\$0.95/min	\$1.45/min		
Suss Mask Aligner	\$0.95/min	\$1.45/min		
Technics Sputterer	\$0.95/min	\$1.45/min		
Trion Metal Etcher	\$0.95/min	\$1.45/min		
Critical Point Dryer	\$1.00/min	\$1.50/min		
DRIE - SPTS	\$1.00/min	\$1.50/min		
Beneq ALD	\$1.00/min	\$1.50/min		
TEM Sample Prep***	\$1.00/min	\$1.50/min		
Atomic Force Microscope (AFM)	\$1.00/min	\$1.50/min		

Xactix XeF ₂ Isotropic Etching	\$1.20/min	\$1.80/min		
DRIE – Oxford Estrelas (without Cryo)	\$1.20/min	\$1.80/min		
Thermo Fisher Apreo SEM	\$1.20/min	\$1.80/min		
Hitachi HT-7700 TEM	\$1.20/min	\$1.80/min		
DRIE – Oxford Estrelas (with Cryo)	\$1.50/min	\$2.25/min		
HF Vapor Etcher	\$3.50/min	\$5.25/min		

** Does not include deposition of precious metals gold and platinum.

*** Contact MNTC **personnel** prior to preparing TEM samples at mntc@louisville.edu

Batch Process Equipment	Internal Rate	External Rate	Internal MNTC Labor Rate	External MNTC Labor Rate
Blue M Oven	\$40/batch	\$60/batch	\$70/hour for training and labor (does not include equipment rate)	\$105/hour for training and labor (does not include equipment rate)
HF-8 Axic Barrel Asher	\$40/batch	\$60/batch		
Tube Furnaces (Anneal, Oxidation, Diffusion, Trash)	\$55/batch	\$83/batch		
RCA Clean Bench	\$55/batch	\$83/batch		
Acid Bench (BOE, Chrome Etch, Aluminum Etch)	\$55/batch	\$83/batch		
Base Bench (KOH, TMAH)	\$55/batch	\$83/batch		
YES Polyimide Oven	\$55/batch	\$83/batch		
YES Image Reversal Oven	\$55/batch	\$83/batch		
Parylene Deposition System	\$60/batch	\$90/batch		

ADDITIONAL FEES

Fees	Internal Rate	External Rate
Training	\$70/hour	\$105/hour
Gold Deposition	\$75/1 gram	\$112.50/1 gram
Platinum	\$40/g	\$60/g
Dicing	\$75/per wafer \$1/minute after 1 st hour	\$115/per wafer \$1/minute after 1 st hour
Dewar Fill (LN ₂)	\$85/fill	-

PHOTOMASKS

Photomasks	Internal Users	External Users
4" substrates Resolution 6 um and larger	\$150	\$225
6" substrates Resolution 6 um and larger	\$250	\$375
CAD File Development	\$70/hour	\$105/hour

Smaller resolutions can be obtained down to 1 um for photomasks. Contact us for details and pricing at mntc@louisville.edu

A usage fee is not assessed on the following items but does not include MNTC labor fees.

Spin Rinse Dryer, Four Point Probe, Probe Station, Solvent Wet Bench & Developer Wet Bench

CONSUMABLES/SUPPLIES

Item	Internal Rate	External Rate
Photoresist S1805, bottle 50 g	\$45	\$70
Photoresist S1813, bottle 50 g	\$45	\$70
Photoresist S1827, bottle 50 g	\$60	\$90
Photoresist SPR 220-3.0, bottle 50 g	\$70	\$105
Photoresist SPR 220-7.0, bottle 50 g	\$70	\$105
Photoresist AZ4620, bottle 50 g	\$70	\$105
Polyimide 2611, bottle 50 g	\$65	\$100
Photoresist - SU8 / per wafer	\$20/wafer	\$35/wafer
4" Non-Oxidized Prime SSP Wafers	\$30/wafer	\$45/wafer
4" Oxidized Prime SSP Wafers	\$40/wafer	\$60/wafer
4" Non-Oxidized Prime DSP Wafers	\$40/wafer	\$60/wafer
4" Oxidized Prime DSP Wafers	\$50/wafer	\$75/wafer
6" Non-Oxidized Wafers	\$40/wafer	\$60/wafer
4" Borofloat Wafers	\$30/wafer	\$45/wafer
4" Fused Silica Wafers	\$30/wafer	\$45/wafer
4" Wafer Container	\$5/each	\$8/each
4" Wafer Container Lid	\$5/each	\$8/each
Cleanroom Notebook	\$15/each	\$23/each
Metal Tipped Wafer Tweezers	\$55/each	\$85/each
Plastic Tipped Wafer Tweezers	\$55/each	\$85/each
Petri Dishes	\$4/each	\$6/each
Gel pack	\$10/each	\$15/each
Microscope Slides	\$7/box	\$10/box
EM Sample Prep - Buffer & Fixative	\$20/each	-
EM Sample Prep - Lead Citrate	\$25/each	-
EM Sample Prep - Osmium Tetroxide	\$5/each	-
EM Sample Prep - Resin	\$20/each	-
EM Sample Prep - Scintillation Jar	\$3/each	-
EM Sample Prep - TEM Grid	\$2/each	-
EM Sample Prep - Uranyl Acetate	\$6/each	-