COLLEGE OF ENGINEERING
UNIVERSITY *of* WASHINGTON

Washington Nanofabrication Facility Rate Structure for 2025
(Effective 01/01/2025)

The Washington Nanofabrication Facility (WNF) is a non-profit business unit within the University of Washington. WNF is mandated to charge time and materials on a cost reimbursement basis. Academic pricing is achieved through UW, state, and federal grants and subsidies. The hourly equipment rate structure is split into 4 tiers, basic, low, mid, and high cost groups, while the door access fees and subscription fees cover materials and supplies, overhead (UW 8% and WNF 7.6%), and labor that is not covered by equipment use.

User Classifications:

The following user classifications determine eligibility for specific rate plans:

University of Washington and Affiliates: University of Washington researchers or affiliate-sponsored researchers (e.g. UW APL). Candidates eligible for Academic Rates are not assessed an overhead rate as the UW overhead rates are already applied to the research grant or other internal UW funding. These users must pay with a UW budget number.

Non-UW Academic, Non-Profit Organizations, and Government: Researchers employed by or with appointments at non-UW academic institutions, recognized non-profit organizations, and state/federal government agencies or national labs. These candidates are eligible for the Academic rate plus an overhead charge.

Industrial: Any employees of non-academic and non-government organizations who intend on using the WNF facility for self-directed work. These candidates are eligible to select between the Industrial Fixed or Industrial Full plus an overhead charge.

Remote: Entities that solely seek to conduct limited scope process work that is to be conducted by WNF staff provided on a best-effort, time and materials cost reimbursement basis that includes the pro-rated hourly equipment plus engineering rate and overhead. Due to the experimental nature of work, WNF cannot guarantee quality assurance in meeting all remote work specifications, but, will use best-effort methods to attempt to obtain a satisfactory result for the client.

Rate Plans:

These rate plans are available to users as dictated in the user classification section. Each project/user combination must be enrolled in a rate plan. Users with multiple affiliations and projects may be in multiple, differing rate plans, but all plan charges, caps, and restrictions will be addressed individually for each organization/project/user combination. Stockroom supplies and precious metals are charged at cost plus nominal overhead for all plans.

Academic Full: The academic rate plan is directed to provide cost-effective access for academic researchers and is subsidized by the UW and grant activity. The plan provides a usage cap with a sufficiently high monthly notch to enable cost-prediction for grant proposals. All equipment use that exceeds the **monthly** notch limit is charged at the Post Notch Cap rate. The cap applies only to equipment use and access fees. Training and engineering assistance is not capped. Furthermore, to foster the development of process-centric research groups, Principle Investigators with multiple **active** (incurring more than $550/month in charges) Academic students will receive a monthly rate discount on standard equipment and access rates (2 students 10%, 3 students 15%, 4 students 20%, 5+ students 25%).

Industrial Full: The full industrial rate plan is a standard industrial rate, uncapped plan for light or intermittent industrial users. All access and equipment use charges are billed at the industrial hourly rate plus overhead.

Industrial Fixed: The fixed industrial rate plan is directed toward consistently high-volume users by providing a consistent monthly charge (for below notch utilization) with a 6-month use commitment with open enrollment in January and July or upon inception as a new user. The fixed rate includes monthly card fee, unlimited daily access fees, and all equipment charges below the **monthly** notch limit. All equipment use that exceeds the notch limit is charged at the Post Notch Cap rate (33% of hourly rate) plus overhead. Organizations can have a mixed group of user slots between Industrial Fixed and Industrial Full plans, but must assign a specific project/user to the slot during open enrollment. Organizations with multiple fixed users can share notch limits among the **fixed** users, so the monthly usage before being assessed at the Post Notch Cap Rate for 2 fixed users is $16,500 and 3 fixed users is $24,700. Organizations with multiple fixed rate accounts will receive a monthly rate discount on the fixed rate fee (3-4 fixed users 10%, 5+ fixed users 15%).

Electron-Beam Lithography (EBL): The UW JEOL JBX-6300 EBL is one of the most advanced and cost-effective direct write tools in the nation. Despite this, WNF incentivizes its utilization by introducing the cap and notch cap constructs to this tool for each separate project/user combination. The cap is at 60 hours per year with the notch at 80 hours. Remote EBL work is not eligible for cap. The EBL notch/cap is separate and it is not eligible for the general notch/cap.

Training: Training will incur engineering staff charge plus the equipment rate.

Staff Support: Staff assistance for non-equipment issues will be charged at the engineering rate. Requests for staff support should be made via email to staff members.

Fee Schedule:

The rate structure is valid starting January 1, 2025.

Organization	UW	Non-UW	Non-UW	Non-UW
Tier	Academic	Acad/NPO/Gov	Industrial	Industrial
Level	Full	Full	Full	Fixed
Overhead Rate	0.0%	15.6%	15.6%	15.6%
Access Fees				
Month	$110	$110	$110	$5,500
Daily	$27	$27	$82	$0
Caps				
Cap/Notch Reset	Monthly	Monthly	Monthly	Monthly
Cap / month	$2,200	$2,200	N/A	N/A
Post Notch Cap Rate	33%	33%	N/A	33%
Notch point ($)	$4,620	$4,620	N/A	$8,250
Hourly Rates	Academic Rates	Academic Rates	Industrial Rates	Industrial Rates
Photolithography				
HMDS	$33	$33	$99	$99
Spin Coater	$55	$55	$165	$165
Contact Aligner	$55	$55	$165	$165
Heidelberg Direct Write	$33	$33	$99	$99
Nanoscribe 3D Printer	$33	$33	$99	$99
Critical Point Dryer	$11	$11	$33	$33
Rite Track	$77	$77	$231	$231
Coater/Developer Nanoscribe	$77	$77	$231	$231

Hourly Rates	Academic Rates	Academic Rates	Industrial Rates	Industrial Rates
E-beam Litho	$137	$137	$495	$495
Wet Etch Suite				
Wet Bench	$11	$11	$33	$33
SolventBench	$11	$11	$33	$33
Gold Plating	$77	$77	$231	$231
Dry Etch Suite				
DRIE	$77	$77	$231	$231
RIE	$77	$77	$231	$231
ICP	$77	$77	$231	$231
Plasma Asher	$55	$55	$165	$165
Vapor Etchers	$77	$77	$231	$231
Thermal Suite				
Oxidation Furnace	$11	$11	$33	$33
Anneal Furnace	$11	$11	$33	$33
RTA	$55	$55	$165	$165
CVD Suite				
PECVD	$55	$55	$165	$165
ALD	$33	$33	$99	$99
PVD Suite				
Ebeam Evaporator	$77	$77	$231	$231
Sputter	$77	$77	$231	$231
Metrology Suite				
Microscopes	$11	$11	$33	$33
Stylus Profilometer	$55	$55	$165	$165
Optical Profilometer	$55	$55	$165	$165
Reflectometer	$11	$11	$33	$33
SEM	$77	$77	$231	$231
Contactangle	$11	$11	$33	$33
Ellipsometer	$55	$55	$165	$165
Packaging Suite				
Grinder	$77	$77	$231	$231
Wafer Bonder	$77	$77	$231	$231
Dicing Saw	$55	$55	$165	$165
PDMS Mixer	$11	$11	$33	$33
Wire Bonder	$55	$55	$165	$165
Wafer Cleaner	$33	$33	$99	$99
Probe Station	$33	$33	$99	$99
Parylene Coating	$33	$33	$99	$99
Services				
Engineering Rate	$77	$77	$165	$165
Training Rate	$77	$77	$165	$165
Supplies	Cost+OH	Cost+OH	Cost+OH	Cost+OH

Precious Metals Surcharge: Precious metals are charged at cost plus overhead.

Subscription Services (all subject to 15.6% external overhead):

Private Equipment Access: Academic and industrial organizations may elect to operate and maintain private equipment within the cleanroom. Due to the wide range of equipment complexity and value to the laboratory and the resulting impact on the staff, workflow, and facilities these arrangements will be negotiated on a case-by-case basis with a standard occupied area fee of $330/10sf per month.

Storage Boxes: All active on-site groups may rent a desiccator dry storage box for $80/month academic, $110/month industrial based on availability.

Lockers: All active industrial on-site groups may rent a locker for $27/month based on availability.

Office Workstation: All active on-site non-UW users may elect to subscribe for workstation (desk) access at a rate of $330/month.

Shipping: Remote users will be assessed a fee of $33 for domestic and $82 for international shipping of samples once processing is completed.

Policy Clarifications:

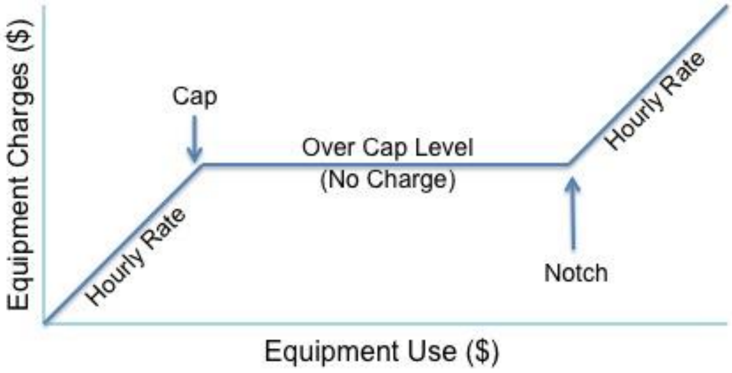
Fees: Requests for billing changes must be submitted via the website at wnf.uw.edu. Planned or equipment-related adjustments are complimentary. Adjustment requests due to repeated user negligence will be assessed an increasing change fee of $38*N academic, $55*N industrial where N is the number of previous requests that calendar year. The lab systems are established in CORAL and on the exit status screen to remind users to log out of equipment. Forgetting to log off prevents other users from utilizing tools, resulting in loss of revenue. Not logging equipment, such as wet/solvent benches will incur a fee of $38*N academic /$55*N industrial where N is the number of violations in a calendar year.

No Show: User that are habitually late or do not show up for appointments will be charged staff time for the entire time blocked out for the appointment.

Visitors: Visitor requests must be made via the website and are assessed a fee of $40 academic and $55 industrial per day.

Wet Process: When in wet processing, anytime a user is at a wet process bench, they must be signed into the wet benches using the touchscreen or CORAL. If a user leaves a sample that occupies the bench so that other users are impeded, they must remain signed into the bench. Users soaking wafers samples must allow other users to safely access the bench in order not to incur charges. Messes left in wet processing will be charged full staff rates for cleanup.

Cleans: Tools that require mandatory cleans (e.g. DRIE, etchers, PECVD) are the responsibility of the user and should be factored in when considering the cost of operations. Users that do not follow the prescribed cleaning protocol will be assessed full tool plus staff time for running cleans.



Notch Cap Concept:

The cap and notched cap aid in establishing cost predictability for both academic research proposals and industrial fabrication overhead. The cap is a periodic ceiling of usage charges that establishes a relatively fixed price per person. A notch cap sets a not-to-exceed threshold on the cap to discourage wasteful equipment use or monopolization of cleanroom resources by a few users. Users exceeding the notch for their subscribed rate plan will pay the post-notch cap discount rate on the hourly equipment charge for their classification. Due to the nature of usage tracking being cost-centric, the cap and notch will be based on a plan’s accrued equipment use charges.