



Cleanroom Rates¹

| Equipment | On-Campus Hourly Rate | Off-Campus Academic Rate | Industry ² Rate | On-Campus ³ Automated Overnight Run Rate | Off-Campus ³ Academic Automated Overnight Run Rate | Industry ³ Automated Overnight Run Rate |
|--------------------------------------------|-----------------------|--------------------------|----------------------------|-----------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------|
| DEPOSITION | | | | | | |
| ALD – Cambridge Fiji F200 | \$75 | \$115.50 | \$150 | | | |
| E-Beam – Denton SJ20C ⁴ | \$75 | \$115.50 | \$150 | | | |
| GaO MOCVD – Agnitron Imperium | \$95 | \$146.30 | \$190 | | | |
| Parylene – SCS PDS 2010 | \$65 | \$100.10 | \$130 | | | |
| PECVD – Oxford Plasmalab 80 | \$90 | \$138.60 | \$180 | | | |
| Sputter – Denton 635 ⁴ | \$80 | \$123.20 | \$160 | | | |
| Sputter – Denton Discovery 18 ⁴ | \$77 | \$118.58 | \$154 | | | |
| Sputter – TMV Super ⁴ | \$80 | \$123.20 | \$160 | | | |
| DIAGNOSTIC DEVICES | | | | | | |
| Bell 5180 Gaussmeter | \$1 | \$1.54 | \$2 | | | |
| FLIR Handheld IR Camera | \$1 | \$1.54 | \$2 | | | |
| OAI 306 UV Intensity Meter | \$17 | \$26.18 | \$34 | | | |
| OAI 357 UV Intensity Meter | \$17 | \$26.18 | \$34 | | | |
| DRY ETCHING | | | | | | |
| DRIE – Oxford 100 ICP | \$85 | \$130.90 | \$170 | | | |
| Isotropic – XACTIX X2 XeF2 | \$85 | \$130.90 | \$170 | | | |
| RIE – Oxford Plasmalab 80 | \$85 | \$130.90 | \$170 | | | |
| RIE – PlasmaTherm Metal Etch | \$85 | \$130.90 | \$170 | | | |
| RIE – Technics PE II-A | \$45 | \$69.30 | \$90 | | | |
| ELECTRICAL CHARACTERIZATION | | | | | | |
| Keithley 4200 SCS | \$17 | \$26.18 | \$34 | | | |
| Keysight 404A Mixed Signal Oscilloscope | \$1 | \$1.54 | \$2 | | | |
| Keysight E5061B Network Analyzer | \$1 | \$1.54 | \$2 | | | |
| Micromanipulator Probe Station | \$17 | \$26.18 | \$34 | | | |
| Tektronix TDS 2002 B Oscilloscope | \$17 | \$26.18 | \$34 | | | |
| FURNACES | | | | | | |
| Atmospheric – ProTemp Clean Ox | \$70 | \$107.80 | \$140 | | | |
| Atmospheric – ProTemp Doped Ox | \$70 | \$107.80 | \$140 | | | |
| LPCVD – Expertech CTR-125 LTO | \$95 | \$146.30 | \$190 | | | |
| LPCVD – Expertech CTR-125 Nitride | \$90 | \$138.60 | \$180 | | | |
| LPCVD – Expertech CTR-125 Poly | \$90 | \$138.60 | \$180 | | | |
| RTP – Allwin AccuThermo AW 610 | \$90 | \$138.60 | \$180 | | | |
| Blue-M Box Furnace | \$10 | \$15.40 | \$20 | | | |



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| LASER SYSTEMS | | | | | | |
| DPSS Samurai UV Laser | \$35 | \$53.90 | \$70 | | | |
| LaserStar 1900 Laser Welder | \$75 | \$115.50 | \$150 | | | |
| Universal PLS6.150D CO2 Laser | \$35 | \$53.90 | \$70 | | | |
| LITHOGRAPHY | | | | | | |
| Resist Spinners ⁵ | \$100 | \$154 | \$200 | | | |
| Support Tools (Aligners, Hotplates, Ovens, Vapor Prime) | \$17 | \$26.18 | \$34 | | | |
| MEASUREMENT | | | | | | |
| 4-pt Probe – Microtech RF-1 | \$17 | \$26.18 | \$34 | | | |
| Film Stress – Tencor FLX-2320 | \$17 | \$26.18 | \$34 | | | |
| Film Thickness – n&k 1500 Analyzer | \$17 | \$26.18 | \$34 | | | |
| Film Thickness – Nanospec 3000 | \$17 | \$26.18 | \$34 | | | |
| Profilometer Tencor P-10 | \$17 | \$26.18 | \$34 | | | |
| Profilometer Tencor P-20H | \$17 | \$26.18 | \$34 | | | |
| MICROFLUIDICS | | | | | | |
| CEE 200X PDMS Spin Coater | \$90 | \$138.60 | \$180 | | | |
| Enercon Dyne-A-Mite Ozone Plasma | \$17 | \$26.18 | \$34 | | | |
| March Plasmod O2 RIE | \$17 | \$26.18 | \$34 | | | |
| VWR 1410 Vacuum Oven | \$17 | \$26.18 | \$34 | | | |
| MICROSCOPY | | | | | | |
| Keyence VHX-5000 Microscope | \$25 | \$38.50 | \$50 | | | |
| Olympus LEXT OLS5000 | \$25 | \$38.50 | \$50 | | | |
| MISCELLANEOUS | | | | | | |
| Omniculture 1000UV Light Pen | \$1 | \$1.54 | \$2 | | | |
| Room Use – Cleanroom, Non-Equipment | \$17 | \$26.18 | \$34 | | | |
| Room Use – Non-Cleanroom, Non-Equipment | \$10 | \$15.40 | \$20 | | | |
| Small Tool Use – Cleanroom | \$17 | \$26.18 | \$34 | | | |
| Small Tool Use – Non-Cleanroom | \$10 | \$15.40 | \$20 | | | |
| Auxiliary Items | \$1 | \$1.54 | \$2 | | | |
| PACKAGING & BACKEND | | | | | | |
| Dicing – Disco DAD3220 | \$65 | \$100.10 | \$130 | \$32.50/hr | \$50.05/hr | \$65/hr |
| Dicing – Disco DAD641 | \$65 | \$100.10 | \$130 | \$32.50/hr | \$50.05/hr | \$65/hr |
| UV Tape Release – UVM-102W | \$1 | \$1.54 | \$2 | | | |
| Wafer Bonder – EVG 520 IS | \$90 | \$138.60 | \$180 | | | |
| Wire Bonder – MEI Wedge | \$40 | \$61.60 | \$80 | | | |
| Wirebond Pull Tester – UTI | \$1 | \$1.54 | \$2 | | | |



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| PATTERN GENERATION | | | | | | |
| Heidelberg DWL 66+ | \$75 | \$115.50 | \$150 | | | |
| Heidelberg MicroPG 101 | \$65 | \$100.10 | \$130 | \$32.50/hr | \$50.05/hr | \$65/hr |
| Heidelberg MicroPG 101, 0.9/2.5um | \$65 | \$100.10 | \$130 | \$32.50/hr | \$50.05/hr | \$65/hr |
| NanoFrazor Explore | \$90 | \$138.60 | \$180 | | | |
| Nanoscribe 3D Photonic Pro GT | \$35 | \$53.90 | \$70 | | | |
| WET BENCHES⁶ | | | | | | |
| Spin Rinse Dryers ⁶ | \$17 | \$26.18 | \$34 | | | |
| Wet Benches (Acid/Base) ⁶ | \$17 | \$26.18 | \$34 | | | |
| TECHNICAL SUPPORT | | | | | | |
| Professional Tech Support ⁷ | \$75 | \$115.50 | \$150 | | | |
| Student Tech Support | \$23 | \$35.42 | \$46 | | | |
| Shipping & Handling Fee | \$12 | \$12 | \$12 | | | |

| Monthly Cap^{7, 8, 9, 10} (Per month, total tool use per lab member, per project) |
|-----------------------------------------------------------------------------------------------------|
| FY24 On-campus: \$2,500 FY25 On-campus: \$3,000 |

Notes

- Rates are subject to change.*
- Off-campus industry lab members using a federal grant or contract to pay equipment/lab fees qualify for the off-campus academic rates.*
- Overnight runs are to be scheduled between the hours of 6:00pm-8:00am.*
- Rate does not include the cost of precious metals, which are charged/purchased separately.*
- Charge includes all coat/develop/alignment and wet etch costs.*
- Charges for typical lithography processing (coat, develop, align, wet etch) are included in the Resist Spinners rate. The rates shown can apply for use of these tools for processing other than typical lithography.*
- Fees excluded from the monthly cap: set-up fees, supplies, masks, precious metals, technician time, and expenditures in the Nano Imaging and Surface Analysis Lab.*
- A setup fee will be charged to all new lab members. University lab members \$100, Off-campus academic lab members \$154, and industry \$200. This will train new lab members to qualify to enter the lab.*
- No gowning or daily entry fees; free safety buddies; free mentoring by PI's in the lab.*
- Monthly caps do not apply to misuse of the tool reservation system. If a lab member fails to cancel their equipment reservation, they will be charged for any unused reservation time.*



Use of tool reservations

- *Lab members need to cancel their equipment reservation prior to their reservation start time to avoid reservation charges.*

Payment Policy

- Services are billed at the end of each calendar month.
- Payment is due Net 30 from the date of invoice.
- Credit card payments are welcome.
- If payment is not received within 60 days of the invoice date, the lab member will be locked out of the lab.