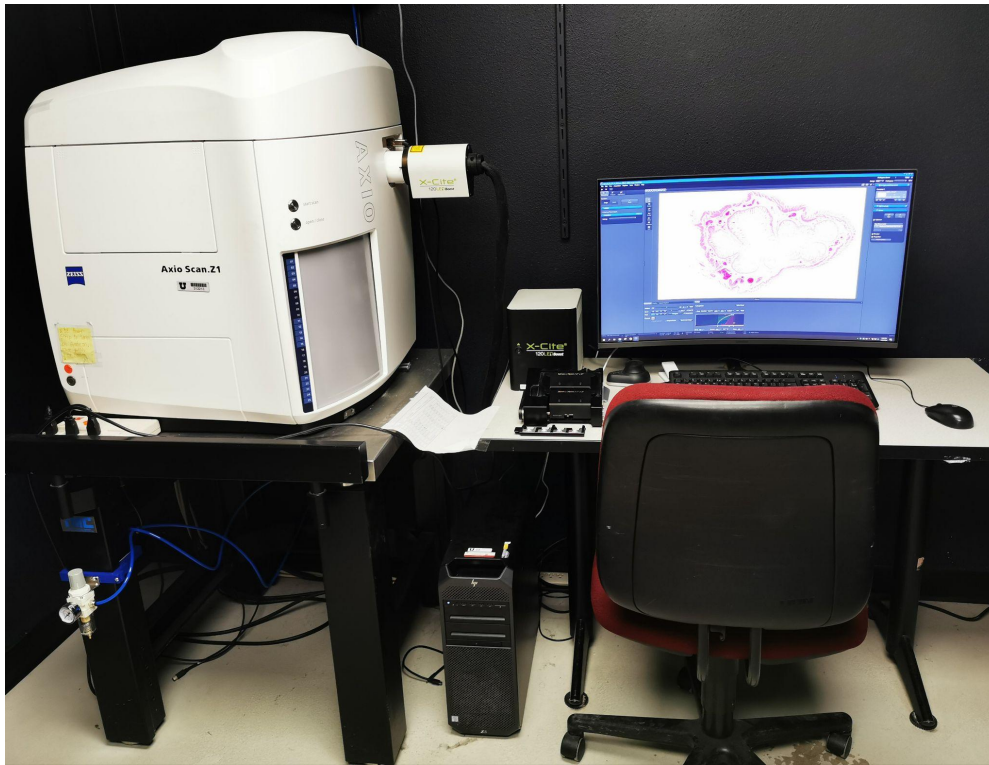


Axio Scan.Z1 (Axioscan Slide Scanner):



The Zeiss Axio-Scan.Z1, located at HSC (Building 586) Room 60 is a fast and flexible slide scanner that digitizes specimens to produce high-quality virtual slide images. In addition to brightfield slide scanning, the Axio-Scan.Z1 uses LED lights to scan up to nine fluorescent channels. Up to 100 slides can be loaded onto the scanner, making it suitable for large projects, including digital archives. Scanned images are saved as CZI files and can be viewed using Zeiss freeware ZEN-lite or third-party image analysis programs (QuPath).

Main features of Axio Scan.Z1:

- Up to 100 standard slides (1x3 inch). Large 2x3 inch slides holder available.
- Bright-field (e.g. H&E slides) or fluorescence (up to nine colors), see filter cubes.
- Image areas can be detected automatically or marked out, to form montages of the whole sample, or multiple samples on each slide
- Setup wizard to guide users through optimizing image acquisition and autofocus parameters.
- Once setup, the system can be left for unattended automated scanning e.g. overnight

Light sources:

XCite 120 LED Boost (Broad spectrum from 385 - 700 nm). Filter cube excitation filter selects the suitable range for excitation.

Filter cubes

Filter No	Filter cube name	Excitation (nm)	Emission (nm)	Opal Dye
1	Empty / Brightfield			
2	DAPI	325-375	435-485	
3	Cyan Fluor, Protein	426-446	465-495	480
4	Alexa Fluor 488	480-500	510-530	520
5	Alexa Fluor 489	510-530	540-560	540
6	HE, DsRed, Alexa Fluor 555	538-562	570-640	570
7	Alexa Fluor 568	568-592	610-640	620
8	Alexa Fluor 660	610-630	645-675	650
9	Cy5	625-655	665-715	
10	Alexa Fluor 680	665-680	695-755	690

Objectives:

Objective type	Magnification	N.A.	Immersion	Coverglass	Free working distance (mm)
Fluar M27	5x	0.25	DRY	0.17	12.5
Pan Apo M27	10x	0.45	DRY	0.17	2.1
Pan Apo M27	20x	0.8	DRY	0.17	0.55
Pan Apo Korr M27	40x	0.95	DRY	0.13-0.21	0.25
EC Plan-Neofluar M27	2.5x	0.085	DRY	0.17	8.8
Fluar M27	2.5x	0.12	DRY	0.17	8.7

Please note that the high-NA air objectives (20x / 0.8NA and 40x / 0.95NA) deliver their highest performance when the thickness of coverglass (#1.5) + mounting medium is close to 0.17mm. Deviations of 50, 100 or more micrometers will visibly impair the image quality. The 10x / 0.45NA objective is mostly unaffected by this effect (since it has lower NA) and can image slides without coverslips (e.g. blood smears) at design performance.

<https://www.microscopyu.com/microscopy-basics/coverslip-correction>

For questions please inquire with core personnel.