

**Anexo I: Determinación de las condiciones de ventilación y aforos de los espacios de trabajo del Instituto de Astronomía Enseñada**

**Metodología:** El análisis y determinación de las condiciones de aforo para las áreas de trabajo del Instituto de Astronomía Enseñada, se desarrollo utilizando como referencia las guía para determinar la ventilación en espacios cerrados durante la pandemia por Covid-19. Ademas se utilizo la herramienta "Directriz de seguridad en espacios interiores" (COVID-19 Indoor Safety Guideline (indoor-covid-safety.herokuapp.com), localizada en COVID-19 Indoor Safety Guideline (indoor-covid-safety.herokuapp.com) Esta herramienta calcula los aforos y tiempos de estancia seguros para espacios interiores. Esto permito programar las actividades de forma tal que se mitigue el riesgo de transmisión del COVID-19 en espacios interiores.

ESPACIO	ÁREA TOTAL	ACTIVA	AFORO	Ventilación por 1. outdoor AirChg	Filtración System (MERV)	Reducción Rate (hr-1)	Humidity	WORK STRINGS	RISK TOLERANCE	AGE OF GROUP	Percentage Immune	Breathing Rate:	Respiratory Activity:	Mask Type/FF	Mask Fit/Compliance	RESULTADO DE LA CORRIIDA	RECOMENDACIONES
<b>ENTRADA PRINCIPAL</b>																	
2 OFICINAS INDIVIDUALES, INVESTIGADORES	17.50	3.00	1.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 18 hours	
1 OFICINA DOBLE, INVESTIGADORES	17.50	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 10 hours	
<b>REPTURAS</b>																	
REPTURA DAM SPM	14.60	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 8 hours	
REPTURA SEDE ACADÉMICA ENSEÑADA	14.70	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 8 hours	
ASISTENTE DE REPTURAS	14.70	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 8 hours	
DELEGADO ADMINISTRATIVO	14.30	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 49 minutes	
<b>OFICINAS ADMINISTRACIÓN</b>																	
SUPERINTENDENCIA DE OBRAS	13.80	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 48 minutes	
PERSONAL	14.00	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 48 minutes	
AUXILIARES PERSONAL	10.90	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 41 minutes	
FINANZAS	10.40	3.00	2.00	0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 41 minutes	
AUXILIARES FINANZAS	11.40	3.00	2.00	0.1	0.00	0.00	60.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 42 minutes	
BIENES Y SUMINISTROS	9.00	3.00	2.00	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 38 minutes	
AUXILIAR BIENES Y SUMINISTROS	7.90	3.00	2.00	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 33 minutes	
SERVICIOS GENERALES, USO DOBLE	13.80	3.00	2.00	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 33 minutes	
COORDINACIÓN DAM SPM	7.50	3.00	2.00	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 33 minutes	
<b>ÁREAS COMUNES</b>																	
AUDITORIO	112.00	6.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	142.0 g/m³	50.00%	50.00%	18 people for 40 minutes	
COMEDOR	20.00	2.50	3	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	72.00 g/m³	0.00%	0.00%	3 people for 2 hours	
SANITARIO 1 (CON MINGSTORIO)	6.30	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 26 hours	
SANITARIO 2 (CON MINGSTORIO)	6.30	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 26 hours	
<b>TALLER Y ALMACÉN</b>																	
ALMACÉN	127.00	6.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	2.35 m³/hr	142.0 g/m³	50.00%	50.00%	2 people for 2 hours	
OFICINA DE ALMACÉN	7.50	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	2.35 m³/hr	42.0 g/m³	50.00%	50.00%	2 people for 41 minutes	
LABORATORIO ÓPTICA	18.30	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	42.0 g/m³	50.00%	50.00%	2 people for 41 minutes	
LABORATORIO CIRCUITOS IMPRESOS	11.50	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	42.0 g/m³	50.00%	50.00%	2 people for 45 minutes	
ESTACIÓN DE VIGILANCIA	9.30	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.54 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 4 hours	
TALLER DE MECÁNICA AUTOMOTRIZ	130.00	6.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	2.35 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 5 hours	
COMPRESOR 1	13.50	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	2.35 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 5 minutes	
COMPRESOR 2	10.30	3.00	1														
<b>MECÁNICA DE PRECISIÓN</b>																	
OFICINA INDIVIDUAL	9.00	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 38 minutes	
OFICINA INDIVIDUAL	6.80	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 39 minutes	
LABORATORIO	17.50	3.00	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 59 minutes	
TALLER Y MEZZANINE	158.50	6.00	2	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 59 minutes	
OFICINA DE CALIBRACIÓN TRIPLE	10.50	2.70	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	2.35 m³/hr	72.0 g/m³	50.00%	50.00%	3 people for 2 hours	
<b>CÓPULA</b>																	
LABORATORIO DE ASTROBIOLOGÍA	26.70	3.50	2	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 2 hours / 2 people for 68 minutes	
ALMACÉN	13.00	3.50	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 32 minutes	
BAÑO	3.80	3.50	1	0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 25 minutes	
<b>BIBLIOTECA</b>																	
BIBLIOTECA	114.00	3.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.54 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 23 hours	
BIBLIOTECA 2	70.00	3.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.54 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 14 hours	
HISTORIOGRAFÍA	50.00	3.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	0.54 m³/hr	72.00 g/m³	50.00%	50.00%	2 people for 18 hours	
<b>OFICINAS NIVEL DE 100-300</b>																	
11 OFICINAS DE USO INDIVIDUAL	12.00	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 44 minutes	
2 OFICINAS DE USO INDIVIDUAL, TÉCNICOS ACADÉM	12.00	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 44 minutes	
2 OFICINAS DE USO DOBLE, TÉCNICOS ACADÉM	12.00	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 44 minutes	
<b>ÁREAS COMUNES</b>																	
CUARTO DE CÓMPUTO, LA GRANJA	44.00	2.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	2.35 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 51 minutes	
CÓMPUTO PÚBLICO	23.00	2.00		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 2 hours	
<b>ÓPTICA</b>																	
TALLER ÓPTICA	108.00	8.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 13 hours	
TALLER ÓPTICA, TRAMPA DE LUZ Y MEZZANINE	89.00	8.00		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 13 hours	
CUARTO OSCURO	13.00	2.70		0.1	0.00	0.00	50.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 13 hours	
<b>POSGRADO</b>																	
CUBÍCULO 312	24.50	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 2 hours	
CUBÍCULO 404	24.50	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 71 minutes	
CUBÍCULO 403	24.50	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 71 minutes	
<b>NIVEL 400</b>																	
401 OFICINA DE USO INDIVIDUAL	11.30	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 42 minutes	
402 OFICINA USO DOBLE	11.30	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 42 minutes	
403 CUBÍCULO USO DOBLE	11.30	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 42 minutes	
406 CUARTO DE CONNATADORES	14.00	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 49 minutes	
2 OFICINAS DE USO DOBLE	7.70	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 31 minutes	
2 OFICINAS DE USOS INDIVIDUAL	7.70	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	72.0 g/m³	50.00%	50.00%	2 people for 33 minutes	
<b>ÁREAS COMUNES</b>																	
TERAZA	58.00			0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	142.0 g/m³	50.00%	50.00%	5 people for 22 hours	
BAÑO 1	12.00	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 45 hours	
BAÑO 2 (CON MINGSTORIO)	12.00	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	0.49 m³/hr	4.20 g/m³	50.00%	50.00%	2 people for 45 hours	
<b>NIVEL 500</b>																	
2 OFICINAS DE USO INDIVIDUAL	15.35	2.70		0.1	0.00	0.00	61.00%	2.51	0.1	0.68	91.00%	1.38 m³/hr	4.20 g/m³	50			