

SASPAC 2025 DATES

Week	Date	Topics (7pm to 9:30pm)
1	Wed 23rd Jul 2025	Getting acquainted with the Southern sky Introduction to the course, website & participant activities Apparent star movement, the South Celestial Pole, the Celestial Sphere, Coordinate Systems, Right Ascension & Declination, Altitude & Azimuth, Ecliptic, Crux & the Pointers
2	Wed 30th Jul 2025	Constellations from the Southern Hemisphere The 88 IAU constellations, 13 Zodiac constellations (along the ecliptic), Southern constellations, Circumpolar constellations, Seasonal constellations, methods of designating stars in a constellation (Bayer & Flamsteed), Double stars (optical & physical), Eclipsing binaries, star hopping using Apps.
		<i>SASI Open Nights Fri 1st & Sat 2nd Aug 2025</i>
3	Wed 6th Aug 2025	Setting up Telescopes & Understanding Optics Simple diagrams on telescope optics, refractors & reflectors, lenses, mirrors, eyepieces, different mounts, adapters, batteries, automated telescopes, binoculars, mounting cameras for photography
4	Wed 13th Aug 2025	The Solar System Rocky planets, gas giants, ice giants, main belt of asteroids, Kuiper belt, dwarf planets, Oort cloud, comets & meteors. Planetary movements: apogee & perigee, retrograde, opposition, elongation, conjunction, occultation, transits, eclipses (Solar & Lunar). The Earth's moon phases
<i>Waterfall</i>	<i>Sat 16th Aug 2025</i>	<i>Gate Open 4:30pm Sun set 5:26 pm No Moon</i>
5	Wed 20th Aug 2025	Stars Distances in space, balance of forces, structure & formation of stars, luminosity, apparent & absolute magnitude, colours & temperature, spectral classes. Hertzsprung-Russell diagram: evolution of normal & massive stars, lifecycle diagram, nova, neutron stars, supernova & black holes.
<i>Waterfall</i>	<i>Sat 23rd Aug 2025</i>	<i>Gate Open 4:30pm Sun set 5:31 pm No Moon</i>
6	Wed 27th Aug 2025	Deep Sky Objects Open & Globular Clusters, Emission, Reflection & Dark Nebulae. Novae remnants (Planetary Nebulae), Supernovae remnants. Galaxies: spiral, elliptical & irregular. Multiple & variable stars. Catalogues (Messier, NGC, IC), Seeing & transparency, deep sky observing techniques (dark sky, averted vision, filters, dark adaptation, breathing, "steadily holding")
7	Wed 3rd Sep 2025	Introduction to Big Bang Theory Einstein's Equations (don't panic), Doppler effect, Leavitt & Hubble (expanding Universe), Hoyle/Penzias & Wilson (CMBR), Guth (Inflation), Big Bang Timeline, Dark Matter, Dark Energy, End of the Universe
8	Wed 10th Sep 2025	New Developments in Astronomy Space telescopes, large Terrestrial telescopes & adaptive optics, radio telescopes, exoplanets, space craft & rovers. Astro-Photography: basic concepts for the beginner, tracking & stacking. Course certificates, feedback
<i>Waterfall</i>	<i>Sat 13th Sep 2025</i>	<i>Gate Open 5pm Sun set 5:45 pm no Moon</i>
		<ul style="list-style-type: none"> • School Holidays start Monday 29th Sept 2025 • New Moons: 25th Jul, 23rd Aug & 22nd Sep • Waterfall = Dark sky observing opportunity on a Saturday