

## SASPAC 2024 DATES

Week	Date	Topics (7pm to 9:30pm)
1	Wed 7th Aug 2024	<p><b>Getting acquainted with the Southern sky</b> Introduction to the course, website &amp; participant activities Apparent star movement, the South Celestial Pole, the Celestial Sphere, Coordinate Systems, Right Ascension &amp; Declination, Altitude &amp; Azimuth, Ecliptic, Crux &amp; the Pointers</p>
		<i>SASI Open Nights Fri 9th &amp; Sat 10th Aug 2024</i>
2	Wed 14th Aug 2024	<p><b>Constellations from the Southern Hemisphere</b> The 88 IAU constellations, 13 Zodiac constellations (along the ecliptic), Southern constellations, Circumpolar constellations, Seasonal constellations, methods of designating stars in a constellation (Bayer &amp; Flamsteed), Double stars (optical &amp; physical), Eclipsing binaries, star hopping using Apps.</p>
3	Wed 21st Aug 2024	<p><b>Setting up Telescopes &amp; Understanding Optics</b> Simple diagrams on telescope optics, refractors &amp; reflectors, lenses, mirrors, eyepieces, different mounts, adapters, batteries, automated telescopes, binoculars, mounting cameras for photography</p>
<i>Waterfall</i>	<i>Sat 24th Aug 2024</i>	<i>Gate Open 4:30pm Sun set 5:32 pm Moon rise 10:46 pm</i>
4	Wed 28th Aug 2024	<p><b>The Solar System</b> Rocky planets, gas giants, ice giants, main belt of asteroids, Kuiper belt, dwarf planets, Oort cloud, comets &amp; meteors. Planetary movements: apogee &amp; perigee, retrograde, opposition, elongation, conjunction, occultation, transits, eclipses (Solar &amp; Lunar). The Earth's moon phases</p>
<i>Waterfall</i>	<i>Sat 31st Aug 2024</i>	<i>Gate Open 4:30pm Sun set 5:36 pm Moon set 2:46 pm, no moon after sunset</i>
5	Wed 4th Sep 2024	<p><b>Stars</b> Distances in space, balance of forces, structure &amp; formation of stars, luminosity, apparent &amp; absolute magnitude, colours &amp; temperature, spectral classes. Hertzsprung-Russell diagram: evolution of normal &amp; massive stars, lifecycle diagram, nova, neutron stars, supernova &amp; black holes.</p>
6	Wed 11th Sep 2024	<p><b>Deep Sky Objects</b> Open &amp; Globular Clusters, Emission, Reflection &amp; Dark Nebulae. Novae remnants (Planetary Nebulae), Supernovae remnants. Galaxies: spiral, elliptical &amp; irregular. Multiple &amp; variable stars. Catalogues (Messier, NGC, IC), Seeing &amp; transparency, deep sky observing techniques (dark sky, averted vision, filters, dark adaptation, breathing, "steadily holding")</p>
7	Wed 18th Sep 2024	<p><b>Introduction to Big Bang Theory</b> Einstein's Equations (don't panic), Doppler effect, Leavitt &amp; Hubble (expanding Universe), Hoyle/Penzias &amp; Wilson (CMBR), Guth (Inflation), Big Bang Timeline, Dark Matter, Dark Energy, End of the Universe</p>
8	Wed 25th Sep 2024	<p><b>New Developments in Astronomy</b> Space telescopes, large Terrestrial telescopes &amp; adaptive optics, radio telescopes, exoplanets, space craft &amp; rovers. Astro-Photography: basic concepts for the beginner, tracking &amp; stacking. Course certificates, feedback</p>
<i>Waterfall</i>	<i>Sat 28th Sep 2024</i>	<i>Gate Open 5pm Sun set 5:55 pm Moon set 1:41 pm, no Moon after sunset</i>
		<ul style="list-style-type: none"> <li>• School Holidays start Friday 27th Sept 2024</li> <li>• New Moons: Sun 4th Aug &amp; Tues 3rd Sep</li> <li>• Waterfall = Dark sky observing opportunity on a Saturday</li> </ul>