

## Introduction to Astronomy – April 2017

### Ballarat Observatory

Date	Session 1 Topics 4.00-4.45pm	Break 15mins	Session 2 topics 5.00-5.45pm
<b>Day 1</b> Saturday 8 <sup>th</sup> April	<b>Basics 1:</b> <ul style="list-style-type: none"> <li>• History of astronomy</li> <li>• Constellations</li> <li>• Ancient Models</li> <li>• The Scientific Method</li> <li>• Kepler &amp; his laws</li> <li>• Newton &amp; Gravity</li> </ul>		<b>Basics 2:</b> <ul style="list-style-type: none"> <li>• Astronomical Distances</li> <li>• Nature of light</li> <li>• Doppler Effect</li> <li>• Magnitude scale</li> <li>• Naming of stars</li> <li>• Practical – 3 constellations</li> </ul>
<b>Day 2</b> Saturday 22 <sup>nd</sup> April	<b>Celestial Mechanics</b> <ul style="list-style-type: none"> <li>• Celestial Sphere</li> <li>• Celestial coordinates</li> <li>• Time, Seasons</li> <li>• Phases of the Moon</li> <li>• Tides</li> <li>• Transits &amp; Eclipses</li> <li>•</li> </ul>		<b>Tools of Astronomy</b> <ul style="list-style-type: none"> <li>• Types of telescope</li> <li>• How Telescopes work</li> <li>• Resolution &amp; magnification</li> <li>• Instrumentation</li> <li>• Practical – 3 constellations</li> </ul>
<b>Day 3</b> Saturday 29 <sup>th</sup> April	<b>Stellar Astronomy</b> <ul style="list-style-type: none"> <li>• Our Sun</li> <li>• Life cycle of stars</li> <li>• Star clusters</li> <li>• Classification of Stars</li> </ul>		<b>Our solar system and other Star Systems</b> <ul style="list-style-type: none"> <li>• Planets and Moons</li> <li>• The bits and pieces</li> <li>• The outer reaches of the solar system</li> <li>• Origins of the Solar system</li> <li>• Other star systems</li> </ul>
<b>Day 4</b> Saturday 4 <sup>th</sup> May	<b>“Seeing the Unseen Universe”</b> <ul style="list-style-type: none"> <li>• The Universe beyond the visible.</li> </ul>		<b>Galactic, Extra Galactic Astronomy &amp; cosmology</b> <ul style="list-style-type: none"> <li>• The Milky Way &amp; other Galaxies</li> <li>• Black Holes &amp; The Exotic Realm</li> <li>• Hubble’s Law &amp; The Expanding Universe</li> <li>• The Standard Theory of Cosmology</li> <li>• The Dark Universe</li> </ul>