

# Astronomy targets: February 2019

Unless stated otherwise, all times are for mid-month, for Birmingham UK and are GMT. Rise & set times are for 20 degrees above horizon. Dark & light times are nautical twilight times (Sun 12 degrees below horizon) and astronomical darkness (Sun 18 degrees below horizon).

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## Sun & Moon times

Monday date	Sunset	Naut	Astro	Astro	Naut	Sunrise	Moon
		Dark	Dark	Light	Light		
04/02/19	1659	1817	1856	0546	0626	0743	0%
11/02/19	1712	1828	1908	0535	0614	0730	41%
18/02/19	1726	1841	1920	0522	0602	0716	99%
25/02/19	1739	1853	1932	0508	0548	0702	55%

## Calendar

4 Feb New Moon

19 Feb Full Moon

## Planets

Mercury: Low at Sunset (late Feb)

Mars: Sunset-2110

Jupiter: Low at Sunrise

Uranus: Sunset-2055

## Andromeda Sunset-2050

Planetary nebula: NGC7662 (C22) Blue Snowball

Open cluster: NGC752 (C28)

Galaxies:

M31, M32 & M110 Andromeda Galaxy

NGC404 Mirach's Ghost

NGC891 (C23)

Multiple star: Almaak  $\gamma$ -And (gamma-And) gold & green

## Aries Sunset-2140

Multiple star:  $\Sigma$ 326 orange & red

## Auriga Sunset-0200, best 1940

Emission nebula: IC405 (C31) Flaming Star Nebula

Open clusters:

M36

M37

M38

Multiple star: O $\Sigma$ 147 yellowish & two blue

## Boötes 2310-Sunrise, best 0450

Multiple star:  $\xi$ -Boo (xi-Boo) yellow & orange

## Camelopardalis all night, best 1910

Galaxy: NGC2403 (C7)

Asterism: Kemble's Cascade & NGC1502 cluster

## Cancer 1840-0310, best 2330

Open clusters:

M44 Beehive Cluster

M67

Multiple star:  $\iota$ -Cnc (iota-Cnc) gold & blue

## Canes Venatici 2020-Sunrise, best 0330

Globular cluster: M3

Galaxies:

M51 Whirlpool Galaxy

M63 Sunflower Galaxy

M94

M106

NGC4631 Whale Galaxy

Coloured star: La Superba  $\gamma$ -CVn carbon star

Multiple star: Cor Caroli  $\alpha$ -CVn (alpha-CVn) yellow & orange

## Cassiopeia Sunset-0150 & 0420-Sunrise

Emission nebulae:

NGC281 Pacman Nebula

NGC7635 (C11) Bubble Nebula

IC1805 Heart Nebula

IC1848 Soul Nebula

Open clusters:

M52

M103

NGC457 (C13) Owl cluster

NGC654

NGC659

NGC663 (C10)

NGC7789

NGC7790

Multiple star:  $\eta$ -Cas (eta-Cas) gold & red

## Cepheus Sunset-2350 & 0150-Sunrise

Reflection nebula: NGC7023 (C4) Iris Nebula

Open clusters:

NGC188 (C1)

NGC7160

Coloured star: Garnet Star  $\mu$ -Cep (mu-Cep)

Multiple stars:

$\delta$ -Cep (delta-Cep) yellow & purple

$\Sigma$ 2816 yellow & two white

## Coma Berenices 2220-Sunrise, best 0340

Globular cluster: M53

Open clusters: Melotte 111

Galaxies:

M64 Black Eye Galaxy

M85

M88

M91

M98

M99

M100

NGC4565 Needle Galaxy

## Cygnus 0440-Sunrise

Emission nebulae:

NGC6888 Crescent Nebula

NGC6960 Veil Nebula

IC5070 Pelican Nebula

IC7000 (C20) North American Nebula

Planetary nebulae:

IC5146 (C19) Cocoon Nebula

NGC6826 Blinking Nebula

NGC7008 Fetus Nebula

Open clusters:

M29

M39

NGC6871

NGC6883

NGC6910 Rocking Horse Cluster

Galaxy: NGC6946 (C12) Fireworks Galaxy

Multiple stars:

Albireo  $\beta$ -Cyg (beta-Cyg) gold & blue

61-Cyg orange & red

**Draco** 2320-Sunrise

Planetary nebula: NGC6543 Cats Eye Nebula  
Galaxy: M102

**Eridanus** partly visible, best 1850

Planetary nebula: NGC1535

**Gemini** Sunset-0200, best 2100

Planetary nebula: NGC2392 (C39) Eskimo Nebula  
Open cluster: M35  
Multiple star: Castor  $\alpha$ -Gem (alpha-Gem) two blue

**Hercules** 0220-Sunrise

Globular clusters:  
M13 Hercules Globular Cluster  
M92

**Hydra** partly visible, best 2300

Globular cluster: M68  
Open cluster: M48  
Galaxy: M83

**Lacerta** Sunset-1950 & 0540-Sunrise

Open cluster: NGC7243 (C16)

**Leo** 2120-0520, best 0050

Galaxies  
M65, M66 & NGC3628 Leo Triplet  
M95  
M96  
M105 & NGC3384  
Multiple star: Algieba  $\gamma$ -Leo (gamma-Leo) two yellow

**Lepus** low, best 2030

Globular cluster: M79  
Coloured star: Hind's Crimson Star R-Lep

**Lynx** all night, best 2350

Globular cluster: NGC2419 (C25)

**Lyra** 0250-Sunrise

Planetary nebula: M57 Ring Nebula  
Globular cluster: M56  
Multiple stars:  
Double-Double  $\epsilon$ -Lyr (epsilon-Lyr) four white  
Other Double-Double  $\Sigma$ 2470 &  $\Sigma$ 2474 four white

**Monoceros** 1940-2340, best 2140

Emission nebula: NCG2239 Rosette Nebula  
Reflection nebula: NGC2261 (C46) Hubble's Variable Nebula  
Open clusters:  
M50  
NGC2232  
NGC2264  
Multiple star:  $\beta$ -Mon (beta-Mon) three blue

**Orion** Sunset-2220, best 2000

Emission nebulae:  
NGC2024 Flame Nebula  
NGC2174 Monkey Head Nebula  
IC434 Horsehead Nebula  
Reflection nebulae:  
M42 & M43 Orion Nebula  
M78  
NGC1977 Running Man  
Open clusters:  
NGC1662  
NGC1981  
Multiple star: Trapezium  $\theta$ 1-Ori (theta-1-Ori) four white

**Perseus** Sunset-0030

Emission nebula: NGC1499 California Nebula  
Planetary nebula: M76 Little Dumbell Nebula  
Open clusters:  
M34  
NGC869 & NGC884 (C14) Double Cluster  
NGC1528  
NGC1582  
Melotte 20  
Multiple star:  $\eta$ -Per (eta-Per) gold & blue

**Puppis** partly visible, best 2200

Open clusters:  
M46  
M47  
M93  
NGC2539

**Sagitta** 0510-Sunrise

Globular cluster: M71

**Taurus** Sunset-2220, best 1910

Planetary nebulae:  
M1 Crab Nebula  
NGC1514  
Open clusters:  
M45 Pleiades  
NGC1647  
Melotte 25 Hyades

**Triangulum** Sunset-2240

Galaxy: M33 Triangulum Galaxy

**Ursa Major** 1940-Sunrise, best 0240

Planetary nebula: M97 Owl Nebula  
Galaxies:  
M81 Bode's Galaxy & M82 Cigar Galaxy  
M101 Pinwheel Galaxy  
M108  
M109  
Multiple star: Mizar & Alcor  $\zeta$ -UMa (zeta-UMa) 3 white

**Ursa Minor** all night, best 0510

Multiple star: Polaris  $\alpha$ -UMi (alpha-UMi) yellow & white

**Virgo** 0220-0600, best 0350

Galaxies:  
M49  
M58  
M59  
M60  
M61  
M84, M86, NGC4435, etc. Markarian's Chain  
M87  
M89  
M90  
M104 Sombrero Galaxy

**Vulpecula** 0420-Sunrise

Planetary nebula: M27 Dumbell Nebula  
Open cluster: NGC6885 (C37)  
Asterism: Coathanger