Brief History of Astronomy

Ancient Astronomy

Around 4000 (?) BCE

The oldest astronomical observation ever recorded (Egypt and Central America).

Around 3000 BCE

The first written materials on astronomy (Egypt, China, Mesopotamia and Central America).

2697 BCE

The oldest preserved relation on a solar eclipse (China).

Around 2000 BCE

The first solar-lunar calendars are established in Egypt and Mesopotamia. Stonehenge Sanctuary is established. Constellations are first drawn up by the ancient astronomers.

4th Century BCE

Pythagoras and Thales of Miletus speculate that the Earth is a sphere.

Around 330 BCE

Aristotle's *On Heavens*

Around 280 BCE

Aristrachus of Samos suggests that the Earth revolves about the Sun (*heliocentric concept of the Universe*). He also provides the first estimations on Earth-Sun distance.

Around 240 BCE

Eratosthenes of Cyrene (now Shahat, Libya) measures the circumference of the earth with extraordinary accuracy by determining astronomically the difference in latitude between the cities of Syene (now Aswan) and Alexandria, Egypt.

Around 130 BCE

Hipparchus discovers the precession of the equinoxes and developes the first star catalogue and charts (around 1000 brightest stars).

45 BCE

The introduction of Julian calendar (purely solar calendar) to the Roman Empire upon the advice of the Greek astronomer Sosigenes

Around 140 CE

Ptolemy suggests the geocentric theory of the Universe in his famous work *Mathematike Syntaxis* widely recognized from its Arabic translation as *Almagest.*

Medieval Astronomy

9th-11th Century CE

Intensive development of Arabic and Persian astronomy (star charts and catalogues, planets and the Moon movement, better estimations of the Earth size, and calendar improvement).

813 CE

Al Mamon founds the Bagdad school of astronomy. *Mathematike Syntaxis* by Ptolemy is translated into Arabic as *al-Majisti (great Work*) later called by Latin scholars *Almagest.*

903 CE

Al-Sufi draws up his star catalogue.

1054

Chinese astronomers observe a supernova in Taurus (now this supernova remenents are known as the Crab Nebula [M1]).

Astronomy of the Renaissance

1543

Copernicus publishes *De Revolutionibus Orbium Coelestium* in which he provides mathematical evidence for the heliocentric theory of the Universe.

1572

Tycho Brahe discovers a supernova in the constellation Cassiopeia (now this supernova's remnants are known as *Cassiopeiae A*).

1576

Tycho Brahe founds the observatory at Uraniborg.

1582 (October 15)

Pope Gregory XIII introduces the Gregorian calendar.

1595

David Fabricius discovers the long-period variable star in the constellation Cetus, named Mira Ceti.

1600 (February 17)

Giordano Bruno, after some eight years of imprisonment, is charged with blasphemy, immoral conduct, and heresy for challenging the official church doctrine on the origin and structure of the universe and is burned at the stake in Campo dei Fiori.

1603

Johann Bayer publishes his star catalogue, *Uranometria*. He introduces the so-called *Bayer designation*, system of assigning Greek letters to stars, which is widely used nowadays.

1604

Kepler discovers a supernova in the constellation Ophiuchus.

1608

Lippershey, a Dutch spectacles maker, invents the first telescope.

1609

Galileo first uses the telescope for astronomical purposes (discovers four Jovian moons, the Moon craters, and the Milky Way). The first two of Kepler's Laws of Planetary Motions are announced.

1611

Galileo, Scheiner, and Fabricius observe sunspots.

1612

Peiresc discovers the Orion Nebula (M42).

1619

Kepler publishes the Third Law of Planetary Motion in his *Harmonice Mundi (Harmony of the World).*

1631

Kepler predicts the transit of Mercury, which is observed by Gassendi.

1632

Galileo publishes his *Dialogue on the Two Chief World Systems* - the discussion of Ptolemaic and Copernican hypotheses in relation to the physics of tides (the original version, including title - originally *Dialogue on the Tides* - was licensed and altered by the Roman Catholic censors in Rome).

1633

Galileo is forced by the Inquisition to recant his theories.

1639

Jeremiah Horrocks observes the transit of Venus.

1647

Hevelius - the astronomer from Gdansk - publishes the map of the Moon.

1656

Huygens discovers the nature of Saturn's rings and Titan, the largest satellite of Saturn. Foundation of the Copenhagen Observatory.

1659

Huygens observes markings on the planet Mars.

1666

Cassini observes the polar caps on Mars.

1668

Isaac Newton builds the first reflecting telescope (Newtonian telescope).

1669

Montanari discovers the variable nature of Algol.

1671

Foundation of Paris Observatory.

1675

Foundation of Greenwich Observatory. Römer measures the velocity of light. Cassini discovers the main division in Saturn's rings.

1683

Cassini observes the zodiacal light.

-- www.bios.niu.edu/orion/ancient.html
-- www.bios.niu.edu/orion/medieval.html
-- www.bios.niu.edu/orion/renaiss.html