EXPLORING THE UNIVERSE

Coordinator: John Gillespie

We explore the universe and our strategies for its observation. We consider its contents, origins, evolution and destiny, and speculate about fascinating open issues such as dark matter and energy and extraterrestrial biology. We begin with an overview: the evolution of stars (birth, life and death), galaxies, employing elementary notions of light, gravity and energy. An avid curiosity, but no previous experience in science or mathematics is assumed. Internet competence is essential; the class site contains the required weekly readings, assignments and links for further exploration.

Readings and other Required Materials:

Dinwiddie, R., Gater, W. etal., *Nature Guide: Stars and Planets,* DK Publishing, New York, 2012, ISBN 978-0-7566-9040-3

Participants will view the daily Astronomy Picture of the Day (NASA) http://apod.nasa.gov

John Gillespie is an astrophysicist. John taught at CUNY and the University of Paris. His interests include advocacy for human rights, the interface of science and literature, and music. He has coordinated study groups on astronomy, physics, science and literature and physics and art.

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Week 1	Overview of Universe: History of Cosmology
Week 2	Observing the Universe: How We "See"
Week 3,4	Light, Gravitation
Week 5	The Sun as Typical Star
Week 6	Stellar Evolution: Birth, Life, Death
Week 7	Formation, Evolution of Planets and Moons
Week 8	Asteroids, Comets, Meteors
Week 9	Exobiology: Life in the Universe
Week 10	Pulsars, Dark Matter and Energy
Week 11	Large-Scale Structure of Universe
Week 12	Future of Astronomy and the Universe