

A130
Backyard Astronomy
(5 weeks - 1 credit)

Instructor: F.W. (Fritz) Kleinhans, LD164, 274-6900-secretary, starman@iupui.edu

Web Site: <http://www.physics.iupui.edu/Physics/bya/byahome.htm>

Introduction: An introduction to practical astronomy including the appearance of the night sky (especially what we can discern with out naked eyes), observing, phases of the moon, astro-photography, eclipses, amateur telescopes, sky charting programs, and astronomy on the Internet. The class meets twice a week for five weeks, loosely covering the topics outlined below.

Projects: Students will be required to do a project. A principal one will be astrophotography of the constellations using ordinary camera equipment (yours or equipment borrowed from the department). Other projects might include photographing the Moon, observations of the Moon, or of Jupiter's satellites. Some projects will be Internet related. In all cases, students are encouraged to propose projects of special interest to themselves. Several telescopes are available for projects.

Grades: Grades will be based on the Light Pollution assignment (8%), three short Quizzes, on Thur. starting the second week, (8% each), a Mini-final (28%), and the Project (40%).

Classes: **(We will pick a clear day to do some solar observing.)**

Class 1: Introduction, overview of sky, the BIG picture, project ideas and resources.

Class 2: The Sky, Constellations, Zodiac, Star Brightness and Distance, Old Wives Tales
Astrophotography (Film or Digital): Photography with your camera or our camera;
Equipment handout. Internet Assignment on Light Pollution (10 pts) due at Class 3

Class 3: Where do we live? Milky Way Galaxy. Distances
Reading star charts. Constellations I: Summer: Sagittarius, Scorpius
The Sun; Digital Photography

Class 4: Constellations II: Big & Little Dipper, Cassiopeia;
The nearest stars; The brightest stars; star colors.
The Big Picture: Stellar Evolution
QUIZ 1

Class 5: Constellations III: Summer Triangle, Northern Cross
Motions in the Sky, Seasons
Planetarium Programs; Horoscopes! Time.

Class 6: Moon's Motion, Phases, Appearance
Astronomy and the Internet
QUIZ 2

Class 7: Constellations IV - Winter: Orion, Taurus & Pleiades, Canis Major
Eclipses; Comets

Class 8: Constellations V - Bootes, Virgo, Leo
Meteor showers, meteorites, mass extinctions, aurora
QUIZ 3

Class 9: Astronomy and Climate, Binoculars and Amateur Telescopes
Light Pollution

Class 10: Telescope Mountings, Computerized Scopes
Observing Planets and Faint Fuzzies
Catch-Up/Finish-Up
MINI-FINAL

SUBMIT PROJECTS