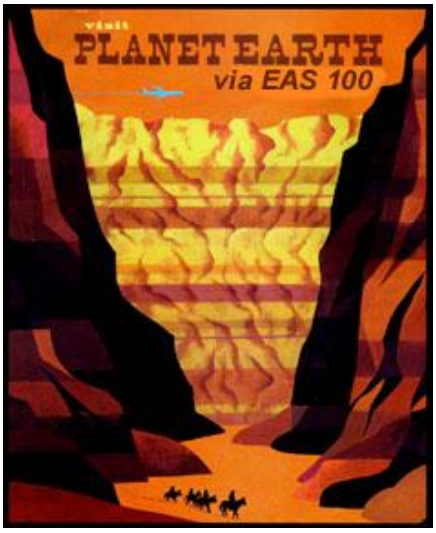

Writing Assignment 3

EAPS 10000 Y01 *Planet Earth* Online Course

Spring 2014

January 16, 2014

Earth Atmospheric Planetary Sciences
PURDUE UNIVERSITY

January 16, 2014 – **Writing Assignment 3:** Writing Assignment 3 should include topics in Chapters 11 through 16 in the textbook. Except for the topics, the instructions for completing Writing Assignment 3 are the same as for Writing Assignment 1. See the **Due Dates** file (on the **Course Content** area of BB Learn) for due dates of all assignments. **Be sure to read the instructions in the WA 1 assignment. Please pay particular attention to the plagiarism discussion!**

Suggested topics for Writing Assignment 3:

Greenhouse gasses
Acid rain
Climate change
Droughts
Blizzards
Atmospheric circulation
Thunderstorms
Lightning
Hurricanes
Hurricane Katrina
The solar system
Jupiter's moons
Copernicus
Newton
Asteroids
Olympus Mons
Water on Mars?
Atmosphere of Venus
Volcanoes of Io
Asteroid belt
Measuring astronomical distances
Hertzsprung-Russell diagram
The big bang

Ozone hole
Global warning
Clouds
Floods
Air pollution
Coriolis effect
Weather hazards
Tornadoes
Hurricane Andrew
The Tri-State hurricane
Earth's tilt
Galileo
Keppler
Planetary impacts
Formation of the Moon
Life on Mars?
Comets
Terrestrial and gaseous planets
Saturn's rings
Jupiter's great red spot
Galaxies
Life of a star
Hubble red shift

Suggested Topics and Example References (links) for WA 3:

Air pollution

Intro to six common air pollutants: http://www.epa.gov/air/urbanair/

*List of topic resources on specific issues:*http://www.nrdc.org/air/

Greenhouse gasses

Intro to greenhouse gases: http://www.ncdc.noaa.gov/oa/climate/gases.html

*Intro to the greenhouse effect:*http://www.ucar.edu/learn/1_3_1.htm

Ozone hole

Intro to the ozone hole: http://ozonewatch.gsfc.nasa.gov/

Process of ozone depletion: http://www.epa.gov/ozone/science/process.html

Acid rain

Basics of acid rain: http://www.epa.gov/acidrain/

http://ga.water.usgs.gov/edu/acidrain.html

Global warming

Brief intro to causes of global warming: http://climate.nasa.gov/causes/

Frequently asked questions surrounding a changing climate:
http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-faqs.pdf

Climate change

Intro to the issues: http://www.epa.gov/climatechange/

http://www.nrdc.org/globalwarming/

Clouds

Cloud types: http://eo.ucar.edu/webweather/cloud3.html

Formation of clouds: http://www.atmosphere.mpg.de/enid/1__Clouds/-_Formation_of_clouds_t9.html

Droughts

NOAA drought info center: http://www.drought.noaa.gov/

NASA articles: http://earthobservatory.nasa.gov/Features/DroughtFacts/

Floods

Intro to floods: http://www.ready.gov/floods

*Emergency preparedness:*http://emergency.cdc.gov/disasters/floods/

Blizzards

*Basics:*http://www.wrh.noaa.gov/fgz/science/blizzard.php?wfo=fgz

http://www.weather.com/encyclopedia/winter/blizzard.html

Atmospheric circulation

Basics: http://www.ux1.eiu.edu/~cfjps/1400/circulation.html

Three cell circulation: http://sparce.evac.ou.edu/q_and_a/air_circulation.htm

Coriolis effect

Brief description: http://oceanservice.noaa.gov/education/kits/currents/05currents1.html

More technical and historical description:
http://www.aos.princeton.edu/WWWPUBLIC/gkv/history/Persson98.pdf

Thunderstorms

Basic in question and answer format:
http://www.nssl.noaa.gov/primer/tstorm/tst_basics.html

http://weather.cod.edu/sirvatka/ts.html

Weather hazards

Stats (see menu for more info): http://www.nws.noaa.gov/om/hazstats.shtml

An intro to high impact meteorology: http://severewx.atmos.uiuc.edu/

Lightning

Basics: http://www.pbs.org/wgbh/nova/earth/how-lightning-works.html

List of resources: http://thunder.msfc.nasa.gov/

Tornadoes

Basics: http://www.nssl.noaa.gov/edu/safety/tornadoguide.html

FAQ: http://www.spc.noaa.gov/faq/tornado/

Hurricanes

Brief intro: http://eo.ucar.edu/webweather/hurricane2.html

General overview (select presentations): http://www.nhc.noaa.gov/outreach/

Hurricane Andrew

Historical report on Hurricane Andrew: http://www.nhc.noaa.gov/1992andrew.html

Effects of hurricane Andrew on wetlands:
http://water.usgs.gov/nwsum/WSP2425/andrew.html

Hurricane Katrina

Detailed report: http://www.ncdc.noaa.gov/special-reports/katrina.html

Survivors' stories: http://www.npr.org/templates/story/story.php?storyId=5704652

US Air Force response: http://www.afhra.af.mil/shared/media/document/AFD-070912-046.pdf

The Tri-State hurricane

Intro (see links on left menu):
http://www.pbs.org/wgbh/americanexperience/features/timeline/hurricane-timeline/

Brief report: http://www.erh.noaa.gov/box/hurricane/hurricane1938.shtml

The solar system

Variety of resources on the solar system: http://solarsystem.nasa.gov/index.cfm

Some solar system basics including theories of formation:
http://abyss.uoregon.edu/~js/ast121/lectures/lec24.html

Earth's tilt

Effect of earth's tilt on seasons:
http://imagine.gsfc.nasa.gov/docs/ask_astro/answers/980211f.html

Basics: http://astronomy.nmsu.edu/nicole/teaching/astr110/lectures/lecture07/slide04.html

Jupiter's moons

Basics: http://solarsystem.nasa.gov/planets/profile.cfm?Object=Jupiter&Display=Sats

http://galileo.rice.edu/sci/observations/jupiter_satellites.html

Galileo

Brief account of Galileo's life: http://math.berkeley.edu/~robin/Galileo/life.html

Account with more detail: http://plato.stanford.edu/entries/galileo/

Copernicus

Brief account of Galileo's life:
http://physics.gmu.edu/~jevans/astr103/CourseNotes/ECText/Bios/copernic.htm

Account with more detail: http://plato.stanford.edu/entries/copernicus/

Kepler

Several resources: http://kepler.nasa.gov/Mission/JohannesKepler/

Detailed bio: http://plato.stanford.edu/entries/kepler/

Newton

Timeline of Isaac Newton: http://web.clas.ufl.edu/users/ufhatch/pages/13-NDFE/newton/05-newton-timeline-m.htm

Detailed bio: http://plato.stanford.edu/entries/newton/

Planetary impacts

Basics: http://www.psi.edu/explorecraters/background.htm

More detail:
http://www.lpi.usra.edu/education/explore/shaping_the_planets/impact_cratering.shtml

Comets, meteorites, asteroids, and impacts:
http://www.uni.edu/morgans/astro/course/Notes/section4/new22.html

Asteroids

List/links of resources: http://solarsystem.nasa.gov/planets/profile.cfm?Object=Asteroids

http://nssdc.gsfc.nasa.gov/planetary/planets/asteroidpage.html

Comets, meteorites, asteroids, and impacts:
http://www.uni.edu/morgans/astro/course/Notes/section4/new22.html

Formation of the Moon

Discussion on the various theories of moon formation:
http://cloe.boulder.swri.edu/aboutTheMoon/alternateTheories.html

A NASA scientist explains the leading theory of lunar formation:
http://lunarscience.nasa.gov/articles/nasa-scientist-jen-heldmann-describes-how-the-earths-moon-was-formed/

Olympus Mons

Brief intro: http://marsprogram.jpl.nasa.gov/gallery/atlas/olympus-mons.html

Brief discussion on Martian volcanism:
http://www.geology.sdsu.edu/how_volcanoes_work/mars.html

Life on Mars?

Brief discussion on the possibility of life on Mars:
http://www.lpi.usra.edu/publications/slidesets/marslife/
Does the presence of methane mean life on Mars?:
http://www.nasa.gov/mission_pages/mars/news/marsmethane.html

Water on Mars?

Recent update on the quest for water on Mars:
http://www.nasa.gov/mission_pages/MRO/news/mro20110804.html

More recent update:
http://science.nasa.gov/science-news/science-at-nasa/2011/08dec_slamdunk/

Comets

Comets, meteorites, asteroids, and impacts:
http://www.uni.edu/morgans/astro/course/Notes/section4/new22.html

Intro to comets: http://en.wikipedia.org/wiki/Comet

Atmosphere of Venus

Intro: http://burro.astr.cwru.edu/stu/advanced/venus.html

More detailed basics of Venus' atmosphere: http://hyperphysics.phy-astr.gsu.edu/HBase/Solar/venusenv.html

Venus/Earth facts comparison: http://nssdc.gsfc.nasa.gov/planetary/factsheet/venusfact.html

Terrestrial and gaseous planets

Basics of solar system and outer planets:
http://lasp.colorado.edu/education/outerplanets/giantplanets.php

Basics of terrestrial plaents:
http://lasp.colorado.edu/~bagenal/1010/SESSIONS/12.PlanetGeology.html

Volcanoes of Io

NASA's description: http://science.nasa.gov/science-news/science-at-nasa/1999/ast04oct99_1/

Intro: http://csep10.phys.utk.edu/astr161/lect/jovian_moons/io.html

Saturn's rings

Brief intro: http://solarsystem.nasa.gov/planets/profile.cfm?Object=Saturn&Display=Rings

Uncertainties: http://science.nasa.gov/science-news/science-at-nasa/2002/12feb_rings/

Basics: http://saturn.jpl.nasa.gov/science/index.cfm?SciencePageID=55

Asteroid belt

Asteroids: http://burro.astr.cwru.edu/stu/asteroid.html

Brief intro: http://starchild.gsfc.nasa.gov/docs/StarChild/solar_system_level2/asteroids.html

Basics: http://en.wikipedia.org/wiki/Asteroid_belt

Jupiter's great red spot

Intro: http://csep10.phys.utk.edu/astr161/lect/jupiter/redspot.html

Explained: http://apod.nasa.gov/apod/ap110502.html

Jupiter's atmosphere:
http://cde.nwc.edu/SCI2108/course_documents/solar_system/outergasplanets/jupiter/atmosphere/atmosphere.htm

Measuring astronomical distances

26 methods for measuring out-of-solar-system distances:
http://www.astro.ucla.edu/~wright/distance.htm

The cosmic distance scale: http://heasarc.nasa.gov/docs/cosmic/

Galaxies
Intro: http://science.nasa.gov/astrophysics/focus-areas/what-are-galaxies/

Types: http://www.damtp.cam.ac.uk/research/gr/public/gal_home.html

Images: http://www.noao.edu/image_gallery/galaxies.html

Hertzsprung-Russell diagram

Intro: http://zebu.uoregon.edu/~soper/Stars/hrdiagram.html

http://casswww.ucsd.edu/archive/public/tutorial/HR.html

Life of a star

Basics: http://map.gsfc.nasa.gov/universe/rel_stars.html
Stella evolution intro: http://science.nasa.gov/astrophysics/focus-areas/how-do-stars-form-and-evolve/

News and images: http://hubblesite.org/search/?query=star+life&x=0&y=0

The big bang

Brief intro: http://www.exploratorium.edu/origins/cern/ideas/bang.html

Intro: http://www.umich.edu/~gs265/bigbang.htm

Basics: http://cmb.physics.wisc.edu/tutorial/bigbang.html

Hubble red shift

Brief intro: http://www.exploratorium.edu/hubble/tools/doppler.html

Basics to calculation details:
ftp://io.cc.gettysburg.edu/pub/clea_products/manuals/Hubbl_sm.pdf