"Never regard study as a duty but as an enviable opportunity to learn...for your personal joy and to the profit of the community to which your later works belong."

Albert Einstein

**Assignment 1**

**Due date: Tues, September 04**

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Question sheet (downloaded) Write answers on the question sheets. Q. 1,2,15; P. 12 (north celestial pole only); D. celestial sphere, ecliptic Q. 1,5; D. archaeoastronomy
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**Assignment 2**

**Due date: Tues, September 11**

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Ch. 4.2-4.5, “The Copernican Revolution” etc. to end of chapter, pp. 59-75 Ch. 5.1, "Newton, Einstein, & Gravity," pp. 79-86 How/know? 2.3: “Evidence...Foundation”, p. 28 How/know? 4.1: “Sci. Revs.”, p. 64
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Q. 9,12 (first question only),14,18; DQ. 4.5; P. 4,5 (Hint: First find a) 6; D. epicycle, deferent Q. 4,6,7,10,17,27; P. 2 (Hint: g compared to surface means surface g = 1 and g varies inversely with distance squared. Ignore mass) list 3 significant points – hand written on paper, handed in to me list 3 significant points
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**TEST 1**

**Date: Thur, September 20**
Assignment 3

Due date: Thur, September 27

Question Sheet (handout) Write answers on the question sheets.

Sagan article: "Why We Need to Understand Science" (handout)

How/KNOW? 4.2: "Hyp, Theory, Law", p. 69
How/KNOW? 5.1: "Cause & Effect", p. 85
How/KNOW? 5.2: "Testing Hyp by Prediction", p. 94
How/KNOW? 2.2: "A System of Knowledge" p. 190

distinguish the three terms
list 3 significant points
list 3 significant points
list 3 significant points
list 3 significant points
list 3 significant points
list 3 significant points

Assignment 4 — Foundational Assignment

Due date: Thur, October 04

Introductory Course Note Set (handed out)

Question Sheets (handout) Write answers on the question sheets.

Assignment 5

Due date: Thur, October 11

Ch. 1, "Here & Now", pp. 1-7
How/KNOW? 1.1: “The Scientific Method...”, p. 8
How/KNOW? 2.1: “Scientific Models”, p. 20
How/KNOW? 2.2: “Pseudoscience”, p. 26
How/KNOW? 2.4: “Sci Arguments”, p. 29
Q. 3,9; P. 2,7,8 (solve for #sec); D. light-year
Q. 33
list 3 significant points
list 3 significant points
list 3 significant points
list 3 significant points

Assignment 6N

Due date: Thur, October 18

Ch. 16, "Meteorites, Asteroids, and Comets"
pp. 353-379
Ch. 3, "Moon Phases & Eclipses", pp. 33-48
How/KNOW? 13.2: “Present is Key to Past” online
Q. 2-5,7; D. selection effect, Apollo-Amor objects
Trojan asteroids,
Q. 7 (Hint: from the moon you’re looking in the opposite direction, so...),14; D. spring and neap tides
list 3 significant points
list 3 significant points (Read online in Course Documents page.)
list 3 significant points

TEST 2 Date: Thur, October 25

Assignment 7

Due date: Thur, November 01

Ch. 10.4, “Planets Orbiting...Stars”, pp. 213-220
Ch. 11, “Earth: The Active Planet”, pp. 224-239
Q. 48 (extra credit for more than 3 methods),50
Q. 4 (minimum 4 ways) 14,23,24,28,33; P. 6 (HINT: a d=r*t problem.)
list 3 significant points
list 3 significant points
list 3 significant points
Assignment 8
Due date: Thu, November 08
Ch. 12, “The Moon & Mercury: Comparing Airless Worlds,” p. 243 to end on p. 262
Q. 4,5,9,10,15,18,20,23,26,27; D. tidal coupling
How/know? 12.1: “How...Unify the Details”, p. 248
list 3 significant points
How/know? 17.1: “Scientific Explanation” p. 385
list 3 significant points

TEST 3 Date: Tues, November 20

Assignment 9
Due date: Tues, November 27
Ch. 13, "Venus & Mars," pp. 266 to end, p. 292
Q. 1,2,9 (Skip naming the source of H₂O.),10; P. 2 (HINTS: distance = rate x time; radio waves are low energy light waves so they travel at 300,000 km/s; Ignore orbital eccentricities–just use semi-major axes values.)
Q. 12,16,21,23, 24
list 3 significant points
How/know? 15.1: “Scientific Discoveries”, p. 330
list 3 significant points

Assignment 10N
Due date: Thur, November 29
Ch. 14, "Jupiter and Saturn", pp. 296-323
Q. 2,3,5,7,9,11,18,19,21,24,33-35; D. Roche limit
list 3 significant points
list 3 significant points

Assignment 11N
Due date: Thur, Dec 06
Ch. 15, “Uranus, Neptune, and The Kuiper Belt,” p. 328 to end on p. 350
Q. 1,3,4,13,16,18,19,22,23 D. occultation

TEST 4 Date: Thur, December 13

Assignment 12
Due date: Thur, December 13 But not covered in test
Ch. 17.2, "Life in the Universe", pp. 388-396
Q. 5-7,12,14,17,18; D. Cambrian period
How/know? 17.2: “UFOs and Space Aliens” p. 397
list 3 significant points