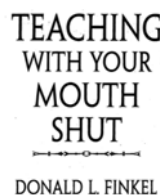
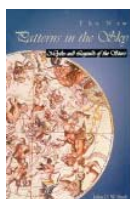


## Science Seminar in ~~Astrology & Cosmetology~~ – um – Astronomy & Cosmologies – Spring 2015 – Zita

Astronomy is the science of what we observe in the sky.<sup>1</sup> Cosmologies are ways in which humans have understood the creation, evolution, and structure of the universe, and our place in the universe, throughout history and across cultures.<sup>2</sup>



LEARNING IN COMMUNITY is a central aspect of this program. We'll discuss Finkel's "[Learning Through Writing Together](#)" today, and more in Thursday's workshop:

SCHEDULE	ACTIVITIES (check <a href="#">Moodle</a> for details)	do / DUE
Weekend	R&R ... Read & write, think & take notes. Pre-seminar with teammates	post PIQs
MONDAY	6:00-9:00 pm in Sem2 A2109	Bring your readings
Tuesday		Thinking and writing
Wednesday	start Online seminar	Post a short inquiry-based Essay on readings.
Thursday	6:00 -8 pm in the CAL: SciSem week 1 - Moodle & teams workshop	Respond to peers' inquiries
Friday		Replies and reflections
Saturday	finish Online seminar	Post your polished Essay

**Astronomy:** observations, measurements

**Astrophysics:** interpretations, theories

**Cosmology:** to a scientist, the *origin, structure, and evolution* of the universe. Its *past, present, and future*.

To a humanist: mythologies, creation stories, and scientific understanding about the universe.

**Mythology** has at least three purposes, historically (EEE): to **explain** observations in nature ("just so" stories); to **educate and enforce** societal **expectations** (fables, parables); and to **entertain** (legends, fantasies, etc.)

We'll explore intersections between astronomy & cosmologies, as we read, write, discuss, and respond to each other as a learning community. Through our intellectual explorations, we aim to deepen our understanding and wisdom together, and to hone our communication skills.

### PLAN for Day 1:

**Info & Intros:** While I read the registration list (please tell me how to pronounce your name) ...

**Nametags:** First (whatever you like to be called), Last (for my benefit), and underneath, please indicate if you're in

\*Astro & Cosmo

\* Sci Sem

or

\* Waitlist

**Fill out a card** – and **on back**, please include your EMAIL, PHONE NUMBER, and any ADDITIONAL INFO your prof should know – single mom? Commuting from Seattle? On the soccer team? Disability? Working more than 20 hours/wk?

- BUFF for Astro & Cosmo
- \* SALMON for Science Seminar
- \* PINK for Waitlist

**Find two people with the same color** (or maybe one pink). **Share your email & phone # and other info. Work as a team today.** Turn in your card to Zita afterwards! Thanks

<sup>1</sup> Astrology is a belief system that involves forecasting futures based on positions of objects in the sky.

<sup>2</sup> Cosmetology is an art or science of making people pretty. Sorry, we won't be teaching those, this quarter.

**Groups and Teams** – once we know who's in the program, I can tell you who is in

Groups  $\alpha$  &  $\beta$ : Science Seminar - you will write Inquiries/Essays or Responses every other week (starting wk.2)

Groups A & B: Astro & Cosmo – come to the **Telescope Training tomorrow, Tuesday, at 3:30 or 4:15 on the Lab 2 roof**, rain or shine. See your schedule! You'll also trade off writing.

We'll talk more about writing on Thursday.

**Teams**: Start getting to know people in your program (A&C or SciSem). In our Moodle workshop on Thursday from 6-8 in the CAL (Lab 2 first floor), you will commit to a team of 3-4 people (total) and work together all quarter. You will meet outside of class for 4-6 hours per week. Look for people who

- Live near you and
- Have schedules compatible with yours

1 hour – **Discuss Big Bang by Simon Singh**

Questions for teams: Each team choose one, spend 5-10 minutes mining Big Bang, and then tell us what you find.

Do you have other questions to discuss?

- What is the difference between mythos and science (ancient Babylonians and Greeks)? Can you give a current example?
- What is the difference between technology and science (ancient Egyptians and Greeks)? Can you give a current example?
- Why did the Greeks reject Aristarchus' Sun-centered model, according to Singh?
- What were the strengths of the Earth-centered model, in ancient times?
- Why did Europeans initially reject Copernicus' heliocentric model, according to Singh?
- What were Kepler's key contributions? Why was Kepler not believed?
- What was Galileo's key *prediction*, that the telescope allowed him to observe? What impact did this have?
- Why were Galileo's observations rejected?
- What was necessary for the Sun-centered model to become acceptable?

½ hour – **discuss Finkel's Learning Through Writing Together**

- Spend 5-10 minutes with your small group. Come up with one of each, if possible (note the page it's on):
  - Points = key points of the author – in your words
  - Insights = “aha moments” and answers to questions that you discover together
  - Questions = significant outstanding questions to discuss in seminar, or questions of fact for your faculty to address (that you couldn't find out in your pre-seminar discussion)

We'll use Finkel's method all quarter. You will respond to each other's Inquiries, reflect on each other's responses, and use them to develop your inquiries into Essays (under 300 words, to start).

15 minutes: Looking ahead to this week – Questions – and CAPER: bring it back tomorrow (A&C) or Thursday (SS). Don't look anything up! You'll do it again at the end of the quarter to see how much you learned.