**Astrobiology Survey 2012 First Contact Simulation – Final Version 10/15/12**

**(Inspired by the Contact Conference and its Cultures of the Imagination simulation)**

**Goals**

1. Students will have the creative experience of de novo development of a sentient alien

2. Students will simulate a First Contact experience

3. Students will apply concepts learned in class to the exercise

**Methods**

1. Groups of 5 students

a. Each group will create a sentient alien

b. Each student will have a job within the group

c. Must have a list of defined characteristics (specifications) for the alien and defendable reasons for the choice of characteristics

d. Characteristics must be within the range of scientific plausibility (i.e. defendable if challenged)

Science fiction should have the appearance of plausibility ~ Fantasy does not have the appearance of plausibility

e. Must create a visual representation of the alien (doesn’t have to be beautiful/artistic)

2. The alien's planet will be pre-chosen with defined characteristics

3. Aliens will contact a human team (played by the TAs)

4. Groups will do the First Contact experience and then present their alien

5. Modifications can occur with each contact scenario if time allows

**Expectations**

I expect you to be an active participant in the design and creation of your group’s alien

It is up to you as to how expert you become in the simulation’s mechanics, but reading once through the Contact Cultures of the Imagination

Curriculum Teacher’s Guide pages 6-13 is recommended. You will be carrying out Unit C2-Evolving Intelligent Beings, Unit C3-Cooking a

Culture and Unit D-Contact.

I recommend you keep a brief diary of your simulation experience as it will be useful to you for Essay 3 Contact Simulation Reflections due October 29

**Schedule**

October 15/Week 1 – Introduce scenario, week’s homework is to meet as group for 3 hours to create alien, fill out Alien Characteristics Table and

create a visual representation of the alien. One member of group posts final results (Alien Characacterics Table spreadsheet + image) to

Facebook Group by midnight Sunday October 21st.

October 22/Week 2 – Each group does the contact and presents their alien, brief in-class reflection, week’s homework is to do Essay 3 Contact

Simulation Reflections

October 29/Week 3 – Turn in Essay 3 Contact Simulation Reflections and discuss/share what they learned as a larger group.

**Grading criteria**

1. Your group’s Alien Characteristics Table – 50%

Success will be judged by

a. Number of characteristics

b. Scientific plausibility of characteristics

2. Your group’s visual representation of the alien – 10%

3. Your participation in development of your group’s Alien Characteristics Table- 20%

4. Your participation in the in-class Contact simulation – 20%

Success will be judged by your conduct in the simulation, rather than whether or not you successfully achieve contact

**Materials**

1. Briefing book

a. Explanation of the simulation - Contact Cultures of the Imagination Curriculum Teacher’s Guide pages 6-13. You will be carrying out

Unit C2-Evolving Intelligent Beings, Unit C3-Cooking a Culture and Unit D-Contact.

b. Explanation of the planet (including places to find more information)

c. Alien Characteristics Table in Excel Spreadsheet

d. Proposed Algorithm For Conducting First Contact

2. Reflection exercise at end of class

a. 1 minute critique of the exercise

**Groups**

Group 1 = Kevin, Alyssa, Greg, Nick, Adam

Group 2 = Michael, Leo, Stephanie, Lucas, Tyler

Group 3 = Casey, Steve, Luke, Kathryn

**Scenario**

The time is…several hundred years in the future.

Humanity has developed near-faster than light travel through space.

An exoplanet which is a gas giant like Jupiter or Saturn has been detected around a star several light years away which is similar to our Sun.

The exoplanet has a moon which exists in a gravitational habitable zone.

Spectroscopic examination of the moon shows it to have 1) organic compounds, 2) a solvent in the form of liquid water and ice, and 3) an internal

source of heat and energy from gravitational tidal forces

Humanity has launched an exploration mission to this exoplanet’s icy moon.

The alien planet will therefore be an icy moon, similar to Europa. Use the data on Europa as the starting model for your planet. Extrapolate as needed.

Life may be found in the atmosphere of the moon, on its icy surface or in its ocean.

**Your Mantra**

When in doubt, move forward and be creative! ~ or ~ Keep calm and carry on.

**Resources and Sources of Inspiration**

1. The Contact Conference and its Cultures of the Imagination simulation are the inspiration for this simulation. To see how the experts do this - <http://www.contact-conference.org/c00b.html>

2. Historical examples of first contacts on Earth to keep in mind throughout the simulation include 1) Spanish conquistadors meeting the Native Americans and 2) communication attempts between dolphins and humans and great apes and humans.

3. There are a number of television documentaries on the creation of scientifically plausible aliens on exoplanets which may be found either on their channel’s Web site or YouTube. The best is “Alien Planet (Discovery Channel).” Others include Alien Contact (National Geographic Channel), Alien Earths (National Geographic Channel), Anatomy of An Alien (Discovery Channel), Extraterrestrial (National Geographic Channel) [also known as Alien Worlds on Channel 4], Cosmic Safari (BBC), Journey to an Alien Moon (National Geographic Channel)

4. The original first contact science fiction story was written in 1945 by Murray Leinster and is entitled “First Contact” and is summarized at http://en.wikipedia.org/wiki/First\_Contact\_(novelette)

**Questions for Further Discussion**

What are the ethics of meeting with new cultures + races? How have we done it in the past? How should we do it in the future?

Looking at the history of contacts between human cultures, what are the implications (peaceful / warlike / beneficial / exploitative / etc) for first

contact with aliens?

How would you manage a first contact to allay the fears of Earthlings?

What should a first contact protocol look like?

**Proposed Algorithm For Conducting First Contact**

Do we have the proper sensors to examine the aliens? – for example are we equipped only with visible light sensors

What are the alien’s senses or receptors?

How do the aliens communicate among themselves?

Do the aliens use multiple channels vs. a single channel of communication?

What is the common ground for greeting? Or approach to them?

What are universal greeting gestures? What are universal greeting taboos?

What are agreeable gestures to them?

What are threatening gestures to them?

What is the approach to the pediatric patient? – You demur

Is it like 2 gangs meeting – stasis, escalation, deescalation?

Is there a way to use a proxy to limit the potential adverse exposure to the entire species / group?

Try to share a gift with them

Try to share your library of knowledge with them

You can only shoot in self-defense