**Astrobiology Survey -- First Year Seminar 420:029:0008 -- Fall 2012 Syllabus – Final Version 09/17/2012**

**Professor** - Michael P. D’Alessandro, M.D. [michael-dalessandro@uiowa.edu](mailto:michael-dalessandro@uiowa.edu)

**Office Hours** – Noon - 1 pm Wednesdays in Old Capitol Mall Food Court across from Zaikia and by appointment at 3879 John Colloton Pavilion (JCP)

**Physical Location** - E226 Alder Journalism + Mass Communication Building (AJB)

**Time** - 8:00A - 9:15A Mondays

**Credits** – 1

**Online Location** – Astrobiology Survey http://www.facebook.com/groups/astrobiologysurvey **Twitter hashtag** - #absiowa

**Textbook Required** – Astrobiology Survey – [http://www.astrobiologysurvey.org](http://www.warstudiesprimer.org)

**Textbook Supplementary** – Astrobiology Primer - <http://arxiv.org/pdf/astro-ph/0610926v1.pdf>

**Contact Simulation** – Contact: Cultures of the Imagination - <http://contact-conference.org/c02.html>, <http://contact-conference.org/c00b.html>

**Educational Philosophy**

I wish to challenge you, make you responsible for your own learning, and encourage engagement amongst you

I support the Iowa Challenge – Excel ~ Stretch ~ Engage ~ Choose ~ Serve

There is no such thing as a bad question

**Goal of the Course**

Equip you with an intellectual toolkit for the multi-disciplinary study of astrobiology that will allow you to:

Understand astrobiology from the micro to the macro levels - from the single cell to the universe

Undertake meaningful discussion and debate as astrobiology's three primary questions begin to be answered

Embark upon a course of lifelong learning regarding astrobiology and its role in society

As a survey course, it is designed to encourage broad horizontal thinking across the discipline of astrobiology rather than vertical (silo) thinking

**Learning Objectives of This Course**

Where do we come from? or What is the history of life?

What is the future of life?

Are we alone?

**Syllabus (N.B. Wednesday October 10th is Midterm)**

**Date Topic and Chapter to read in Astrobiology Survey**

August 20 1 – Introduction **+ {Choose Astrobiology News Source} + {Choose Research Project}**

August 27 2 – In The Beginning (Life, the Universe, and Everything) and3 – Sensors

September 3 No class – Labor Day

September 10 4 – What is Life?

September 17 5 – Life in Our Solar System **+ {Early Course Feedback Form}**

September 24 6 – Life in the Universe

October 1 7 – Impact Events (The Good, the Bad, and the Ugly) **+ {First essay due on Research Project Reflections}**

October 8 8 – Search for Extraterrestrial Intelligence (SETI)

October 15 9 – Manned and Unmanned Spaceflight +Contact Briefing + **{Second essay due on Are We Alone}**

+ **{3 hour meeting outside class to create alien}**

October 22 Contact Simulation

October 29 Contact Reflection **+** 10 – Future Astrobiology Missions+11 – Conclusion

+ **{Third essay due on Contact Simulation Reflections} + {Final Course Feedback Forms for Me + University}**

**What you need to do to succeed in this course – What are my expectations for you**

I have high expectations for you as students in this course. By the end of this course I expect you to accomplish the Goal of This Course. To do so I expect you to do the following:

Attend every class

Come to class caffeinated

Come to class prepared to discuss the day's topic by reading the assigned chapter(s) of the Astrobiology Survey before class

Participate in class in a challenging yet respectful manner

Participate online in discussions and the simulation in a challenging yet respectful manner

Turn in essays on time

**Grading – Plus and minus grades will be used**

Student's attendance – 10%

Preparation / participation in class – 30%

Participation in online discussions – 10%

Participation in astrobiology news story of the week – 10%

Simulation participation - 10%

Short essays – 10% each x 3 = 30%

**Administrivia**

Amount of homework should be 3 hours per week as this course runs for 10 weeks rather than 15 weeks

Administrative home of the course is the University College

Laptop policy – You are free to use laptops or mobile devices during class as long as they are being used to access course-related information

I would like to hear from anyone who has a disability which may require seating modifications or testing accommodations or accommodations of

other class requirements, so that appropriate arrangements may be made. Please contact me privately.

Please contact me at any time with any feedback, problems, or questions about the course

**Research Project**

Your research project should be one of the research projects on the Zooniverse site (http://www.zooniverse.org/). The list of potential projects are at http://www.zooniverse.org/projects and <http://www.zooniverse.org/lab>. Projects I can personally recommend include SETILive and Planet Hunters.

You will need to create a Zooniverse account. Then choose your project. Then read the section “About the project” so you can understand what you will be trying to do. Then work through their online tutorial of how to do the science. Then watch their video. Then look at example pieces of data and how they evaluated them. Then spend 2-3 hours working on the research project. When you are all done, you need to take a screen shot / screen capture of your profile, for example http://www.setilive.org/profile. Hold on to this as it documents your research.

Once you get going, it does not take long to classify each data point. Therefore, you should classify at least 150 data points (SETI signals, planets, galaxies, etc) to get a good feel for the project.

While you are doing the research, review the questions you will be asked to answer in Essay 1 and jot down a few notes as you go along.

**Astrobiology News Story of the Week**

You must describe 1 astrobiology news story each Wednesday in the online discussion group. The list of astrobiology news sources is found at <http://www.astrobiologysurvey.org/ToLearnMore.html>. Approved news sources include Astrobiology News, Planetary Society Blog, following an astrobiology spacecraft mission’s Facebook page or Twitter feed, or 1 astrobiology-related podcast from the podcasts listed.