

*AST 321 The Future of Humanity*  
Fall 2014 (Unique Number 48585)

**Schedule**

Day 1 8/27 – Discussion of Syllabus, web site, Self-introductions, Getting Acquainted Questionnaire, join Facebook Group.

Day 2 8/29 – Elements of writing, astronomical context of life on Earth, overview of course topics.

*Labor Day 9/1*

Day 3 9/3 – Evolutionary timeline, Sagan video *Cosmic Calendar*, linear versus exponential change. Discussion of “unknown” versus “unknowable.”

Day 4 9/5 – **Draft of first paper, oral reading to peers.** Origin of life, chemistry to biochemistry, random change versus recursion, complexity and emergent properties.

Day 5 9/8 – **Revised drafts to peers for written review.** Discussion of Darwin *Origin of the Species*, *The Descent of Man*, artificial, natural, sexual selection.

Day 6 9/10 – **Discussion of drafts with peers.** Discussion of writing fundamentals. Continued discussion of Darwin, related topics.

Day 7 9/12 – **First Paper Due, 5 pages on the Future of Humanity.** Continued discussion of Darwin, related topics

Day 8 9/15 – Continued discussion of Darwin. Discussion of *The Selfish Gene*.

Day 9 9/17 – Discussion of Wikipedia Human Evolution link (JCW on travel).

Day 10 9/19 – Discussion of current evolution of *homo sapiens*, contemporary evolutionary pressures.

Day 11 9/22 – Discussion of the biological revolution.

Day 12 9/24 – Discussion of genome, proteome, gene switches, epigenetic evolution.

Day 13 9/26 – Discussion of Sociobiology, Evolutionary Psychology

Day 14 9/29 – Discussion of Malthus, Paul Ehrlich, *The Population Bomb*.

Day 15 10/1 – Discussion of limits of Earth’s population.

Day 16 10/3 – Albert Bartlett video *Arithmetic Population and Energy*

Day 17 10/6 – continue Albert Bartlett video, discussion

Day 18 10/8 – **Draft of second paper, oral reading to peers.** Discussion of Moore’s law, computational evolution.

Day 19 10/10 – **Revised drafts to peers for written review.** Discussion of human consciousness.

Day 20 10/13 – **Discussion of drafts with peers** (JCW on travel).

Day 21 10/15 – **Second Paper Due, 10 pages on Topic of Choice.** Discussion of *The Singularity*.

Day 22 10/17 – Discussion of *The Singularity*, exponential growth of knowledge

Day 23 10/20 – Discussion of *The Singularity*, genomics.

Day 24 10/22 – Discussion of *The Singularity*, artificial intelligence, neural networks, deep learning.

Day 25 10/24 – Discussion of *The Singularity*, nanotechnology

Day 26 10/27 – Guest lecturer on robotics, AI.

Day 27 10/29 – Discussion of Lanier, *Who Owns the Future?*

Day 28 10/31 – Discussion of Lanier, *Who Owns the Future?*

Day 29 11/3 – Discussion of Human Space Flight (JCW on travel)

Day 30 11/5 – Discussion of Human Space Flight  
Day 31 11/7 – Discussion of Exoplanets  
Day 32 11/10 – Guest lecturer on exoplanets  
Day 33 11/12 – Discussion of prospects for interplanetary travel  
Day 34 11/14 – Discussion of prospects for interstellar travel, The Fermi Paradox  
Day 35 11/17 – Discussion of prospects for interstellar travel, The Physics of Star Trek  
Day 36 11/19 – Discussion of hyperspace, string theory, large extra dimensions  
Day 37 11/21 – Discussion of the limits of human knowledge  
Day 38 11/24 – **Draft of third paper, oral reading to peers.**  
Day 39 11/26 – **Revised drafts to peers for written review.**  
*Thanksgiving Break*  
Day 40 12/1 – **Discussion of drafts with peers.**  
Day 41 12/3 – **Third Paper Due, 10 pages on The Future of Humanity** (JCW on travel)  
Day 42 12/5 – Wrap-up discussion