

Date	Fields / Topics	Required Readings and Videos	Suggested Materials for Class Presentations
Week 1	Introductions	Fred Spier, <i>Big History and the Future of Humanity</i> , Chapters 1 - 2. (Suggested) <i>Human Universe</i> by Brian Cox, <a href="#">Kahn Academy Course on Big History</a>	
Week 2	<b>Physics</b> The Big Bang: Particles and Atoms (Physics)	Reading: Spier, Chapter 3. The Big Bang: <a href="#">Crash Course Big Bang, Atoms (Dr. Maurone)</a>	<ul style="list-style-type: none"> <li>• Lederman, Leon M., and C. T. Hill. 2011. <i>Quantum Physics for Poets</i></li> <li>• Lederman, Leon M., and Dick Teresi. 2006. <i>The God Particle: If the Universe is the Answer, What is the Question?</i></li> <li>• Lederman, <i>Beyond the God Particle</i></li> </ul>
Week 3	<b>Astronomy, Chemistry</b> Stars and galaxies, Molecules and Minerals in Space	Spier, Chapter 4. <a href="#">Crash Course 2 Stars (Dr. Guinan)</a>	<ul style="list-style-type: none"> <li>• <i>Big Bang: The Origin of the Universe</i> by Simon Singh</li> <li>• Paul Steinhardt, <i>Endless Universe</i></li> <li>• Briane Green, <i>Hidden Realities</i></li> </ul>
Week 4	<b>Astronomy, Geology, Geography</b> Planets and Earth	<a href="#">Crash Course 3</a>	<ul style="list-style-type: none"> <li>• Hazen, Robert M. 2012. <i>The Story of Earth: The First 4.5 Billion Years, From Stardust to Living Planet</i></li> <li>• Neil Shubin, <i>The Universe Within: Discovering the Common History of Rocks, Planets, and People</i></li> </ul>
Week 5	<b>Biology and Evolution</b> Origins of Life and Evolution	Spier, Chapter 5 <a href="#">Crash Course 4 Life (Dr. Hazen)</a> <a href="#">Crash Course 5</a>	<ul style="list-style-type: none"> <li>• Robert Hazen, <i>Genesis: The Scientific Quest for Life's Origins</i></li> <li>• Pross, Addy. 2012. <i>What is Life?: How Chemistry Becomes Biology</i></li> <li>• <i>In Search of Cell History</i> by Franklin M. Harold</li> <li>• <i>The Ancestor's Tale: A Pilgrimage to the Dawn of Evolution</i> by Richard Dawkins</li> <li>• <i>Life Ascending: The Ten Great Inventions of Evolution</i>, by Nick Lane</li> <li>• <i>Your Inner Fish: A Journey into the 3.5-Billion-Year History of the Human Body</i> by Neil Shubin</li> </ul>
Week 6	Physical Anthropology Mammals, Hominins	Spier, Chapter 6 <a href="#">Evolution Mammals (Dr. Jackman)</a> <a href="#">Hominins (Dr. Zimmerman)</a> <a href="#">Crash Course #6</a>	<ul style="list-style-type: none"> <li>• <i>The Last Human: A Guide to Twenty-Two Species of Extinct Humans</i>, by Esteban Sarmiento et al</li> <li>• Daniel Lord Smail, <i>On Deep History and the Brain</i></li> <li>• Johanson, Donald C., and Edgar Blake. 2006. <i>From Lucy to Language</i></li> </ul>
Week 7	<b>Genetics and Archaeology</b> Out of Africa and Global Migration	Spier, Chapter 7 <a href="#">Crash Course #7</a>	<ul style="list-style-type: none"> <li>• <i>The Real Eve: Modern Man's Journey Out of Africa</i>, Stephen Oppenheimer</li> <li>• <i>Before the Dawn</i>, Nicolas Wade</li> <li>• Tattersall, Ian. 2012. <i>Masters of the Planet: Seeking the Origins of Human Singularity</i></li> </ul>

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Weeks 8	<b>Linguistics, Art, Music</b>  Society Mediated by Exchange of Symbols  Language  Art and Music	<a href="#">Speaking Up: The Origins of Language (Lowell Gustafson)</a>	<ul style="list-style-type: none"> <li>• <i>Adam's Tongue: How Humans Made Language, How Language Made Humans</i> by Derek Bickerton</li> <li>• Christine Kenneally, <i>The First Word: The Search for the Origins of Language</i></li> <li>• Norbert Aujoulat, <i>Prehistoric Art: the symbolic journey of humankind, Lascaux</i> by</li> <li>• Jean-Marie Chauvet, <i>Dawn of Art: The Chauvet Cave</i></li> <li>• Lewis-Williams, David. <i>The Mind in the Cave: Consciousness and the Origins of Art.</i></li> </ul>
Week 9	<b>Religion, Meaning, and Ethics</b>	<a href="#">St. Augustine and Genesis,</a> <a href="#">St. Augustine and Stephen Hawking,</a> Fr. Fitzgerald <a href="#">Fr. George Coyne Mendel Presentation at Villanova</a>	<ul style="list-style-type: none"> <li>• Matt J. Rossano, <i>Supernatural Selection: How Religion Evolved.</i></li> <li>• Nicholas Wade, <i>The Faith Instinct: How Religion Evolved and Why It Endures.</i></li> <li>• Frans De Waal, <i>Our Inner Ape or Primates and Philosophers</i></li> <li>• Frans De Waal, <i>The Bonobo and the Atheist</i></li> <li>• <i>Big Gods: How Religion Transformed Cooperation and Conflict</i> by Ara Norenzayan</li> <li>• <i>The Meaning of Human Existence</i> by Edward O. Wilson</li> </ul>
Week 10	<b>Creative Destruction: War and Development</b>		<ul style="list-style-type: none"> <li>• <i>Evolutionary Wars: A Three Billion Year Arms Race</i>, by Charles Kingsley Levy.</li> <li>• <i>War Before Civilization: The Myth of the Peaceful Savage</i> by Lawrence H. Keeley</li> <li>• Jean Guilaine and Jean Zammit, <i>The Origins of War</i></li> </ul>
Weeks 11 - 12	<b>Politics (shamen, chiefs, the state, bands, villages, city, nation, empire, global); Economics, (gathering, scavenging, hunting, agriculture, industry, digital)</b>		<ul style="list-style-type: none"> <li>• <i>Big History: Between Nothing and Everything</i> by David Christian, Cynthia Brown and Craig Benjamin, chapters 5 - 12. <a href="#">Crash Course #8</a></li> </ul>

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Week 13	Future of Humans	<a href="#">Crash Course #9</a>	<ul style="list-style-type: none"> <li>• <i>Human Purpose and Transhuman Potential: A Cosmic Vision of Our Future Evolution</i> by Ted Chu</li> <li>• <i>The Future of the Mind: The Scientific Quest to Understand, Enhance, and Empower the Mind</i> by Michio Kaku</li> <li>• <i>Physics of the Future: How Science Will Shape Human Destiny and Our Daily Lives by the Year 2100</i> by Michio Kaku</li> <li>• <i>The Singularity Is Near: When Humans Transcend Biology</i> by Ray Kurzweil</li> <li>• <i>Abundance: The Future Is Better Than You Think</i> by Peter H. Diamandis and Steven Kotler</li> <li>• <i>The Island of Knowledge: The Limits of Science and the Search for Meaning</i> by Marcelo Gleiser</li> </ul>
Week 14	Future of Nature	Spier, Chapter 8 <a href="#">Crash Course #10</a>	<ul style="list-style-type: none"> <li>• <i>The Sixth Extinction: An Unnatural History Hardcover</i> by Elizabeth Kolbert</li> <li>• <i>Sustainability or Collapse?: An Integrated History and Future of People on Earth (Dahlem Workshop Reports) Paperback</i> by Robert Costanza (Editor), Lisa J. Graumlich (Editor), Will Steffen (Editor)</li> <li>• <i>The Universe: Leading Scientists Explore the Origin, Mysteries, and Future of the Cosmos</i> by John Brockman</li> <li>• <i>The New Universe and the Human Future: How a Shared Cosmology Could Transform the World</i> by Nancy Ellen Abrams, Joel R. Primack</li> </ul>