

NEW YORKCITY OF THE STORY

**DEPARTMENT OF ENGLISH** 

# **ENG 1773 Weird Science: Interpreting and Redefining Humanity**Spring 2015 (3 credits)

Prerequisite: ENG 1101, CUNY proficiency in mathematics; students must also have a level of computer competency necessary for taking an online course.

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Class Location: Wednesday 2:30 to 3:45 p.m., Namm Hall, room N 601B

# **Course Description**

This writing-intensive interdisciplinary course will allow students to explore the literature of shifting and expanding definitions of humanity and post-humanity from the perspectives of the natural and social sciences, technology, and engineering, incorporating digital media.

#### **Course Goals**

To provide and engage students with an understanding of ideas and connections in the natural and social sciences, technology, and engineering, including:

- Cultural factors that affect these disciplines
- Philosophical, historical, and ethical perspectives
- Methods for finding pertinent information
- Critical evaluation of ideas and their sources
- Developing the critical writing skills to discuss these ideas in an academic context
- Using multimedia and simulations to communicate information

#### **Final Course Grade Breakdown**

Annotated bibliography	10%
Case studies	30%
Responsible Conduct of Research certification	5%
Midterm literature review	10%
Group project proposal presentation	5%
Final paper topic proposal	5%
Group project	10%
Final group presentation	5%
Final paper	20%

<u>Annotated bibliography</u>: Write one paragraph summarizing, assessing and reflecting on assigned course readings. Research your topic and find references that will support your thesis. Evaluate any new references that you have added to the class readings for relevance, expertise, currency, accuracy, and purpose.

<u>Case studies</u>: Complete assignments before class, in class, and after class, as directed. Facilitated by guest lecturers, these may include answering pre-case questions individually prior to undertaking the case study in class, working on case questions in small groups in class, and submitting an individual write-up to these questions after class. Also, answer post-case study questions, as appropriate.

<u>Midterm literature review</u>: Write a five-page review of the literature addressing *On Being Human*, using pertinent readings from the course to date. Include online references, as appropriate.

<u>Group project proposal presentation</u>: Using your media of choice, individually propose your idea of where you think humanity is going and how you will simulate this trajectory in an online virtual world. We will consider all ideas, and the best few will be chosen to move forward and be developed as part of a group.

<u>Final paper topic proposal</u>: After contacting at least two of the guest lecturers (one from each of the two parts of this course) and having your topic approved by me, write a one-page description of your proposed final term paper. Be sure to note the two or more disciplines that will inform your research, your working title, a clear thesis statement, and your concept map. Attach your updated annotated bibliography and then post your entire proposal online. We will discuss all topics in class.

<u>Group project</u>: Imagine the future (molecule, animal, human or beyond, as well as future interactions that explore the relationship between the individual and society) and, with your group, create a representation (an avatar) of what it means to be human in a virtual world. Animate, simulate, and annotate your avatar, as appropriate. Engineer the virtual space to meet the needs of the prediction (i.e., the virtual human and its required interactions).

<u>Final group presentation</u>: Explain the process, demonstrate an important aspect of your avatar, and provide the rationale for its appearance, movements, interactions, and surroundings. Be sure that each member of the group has a role in this presentation.

<u>Final paper</u>: Write a 10-page term paper. Revise and expand your midterm literature review to include topics, concepts, and readings from the second half of this course— On Being Virtually Human (or On Being Human Virtually)—that are pertinent to your thesis. Including at least six additional references that support your thesis. Web sites will be considered as supplementary references, not as primary references.

# **Required Format for Papers**

All papers should be typed with 12-point standard font (e.g., Times New Roman or Arial). Page margins should be 1-inch on all sides. Handwritten papers will not be accepted.

# **Policy for Late Papers**

Assignments should be handed in at the beginning of class. If an assignment is turned in late because of an emergency, the grade will decrease as follows:

**One day late**: One letter grade reduction for the assignment for each day late. **One class late**: No credit for the assignment.

# New York City College of Technology Policy on Academic Integrity:

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

### **Attendance and lateness:**

You are expected to attend each class meeting. A student may be absent without penalty for ten percent (10%) of the number of scheduled class meetings during the semester. This percentage translates to two allowable absences from class. Two instances of lateness will equal one absence. For online meetings, students who did not complete the online assignment due on a given date will be marked absent that day.

#### **Required Text**

Kakalios, James. The Amazing Story of Quantum Mechanics: A Math-Free Exploration of the Science That Made Our World. New York: Gotham Books, 2011.

Skloot, Rebecca. The Immortal Life of Henrietta Lacks. New York: Crown Publishing, 2011.

#### **Recommended Text**

Dawkins, Richard. The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design. New York: Norton, 2004.

Additional materials to read or view assigned for each class (see Course Calendar).

# **Course Calendar**

Week	Topics	Online Assignments
1 January 28	Introduction to an interdisciplinary writing- intensive hybrid course: topics, guest	Annotate: Clarke, "Why Africana History?" and
	lecturers, requirements, multimedia and virtual world simulation applications.	Skloot, "Prologue: The Woman in the Photograph"
	What does it mean to be human? Prior knowledge assessment, writing diagnostic	
	Preparing an annotated bibliography	

# Part I: On Being Human

ENG/PHIL)*	Descartes and the Problems of Seeing Ourselves Guest Lecturer: Dr. Laureen Park, Philosophy, School of Arts & Sciences  The Terri Schiavo Case: Legal, Ethical, and Medical Perspectives	Read Aristotle "Nichomachean Ethics, Books I" sections 1-7 (skip 6 if so desired); Descartes "Meditations II: On the nature of the human mind; and that it is more easily known than the body" Annotate: Leland, "Did Descartes Doom Terri Schiavo?" and Slotnik, "Brittany Maynard, 'Death With Dignity' Ally, Dies at 29"
3 February 11 (BIO/ENG)	Soul Searching Guest Lecturer: Dr. Davida S. Smyth, Biological Sciences, School of Arts & Sciences Read excerpts from The Blind Watchmaker	Case study 1 due  Watch Where Did We Come From?  Annotate: Skloot, "Part One: Life"

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<sup>\*</sup> Parentheses include disciplinary perspectives that can be used to facilitate this interdisciplinary course on the enduring question of what it means to be human.

Week	Topics	Online Assignments
4	Gender & Sexuality Studies	Case study 2 due
February 25 (DEN/ENG)	The Immortal Life of Henrietta Lacks Chapter 17, "Illegal, Immoral, and Deplorable"  Guest Lecturer: Dr. Gwen Cohen-Brown, Dental Hygiene, School of Professional Studies	Annotate: Huxtable and Woodley, "Gaining Face or Losing Face? Framing the Debate on Face Transplants" and Wilchins, "It's Your Gender, Stupid!"
		Watch Boy I Am
5 March 4 (ENG/PSY)	Human Subject Research Ethics  Guest Lecturer: Dr. Jean E. Kubeck Hillstrom, Chair, Department of Social Sciences CUNY University Integrated IRB Member <a href="https://www.citiprogram.org">https://www.citiprogram.org</a>	Annotate: Skloot, "Part Two: Death" and "Part Three: Immortality"
6 March 11 (ECON/SOC)	I Consume, Therefore I Am: Capitalism's Humanity Guest Lecturers: Dr. Costas Panayotakis, Sociology and Dr. Sean P. MacDonald Economics, School of Arts & Sciences Watch The Story of Stuff	Responsible Conduct of Research (RCR) certification due  Annotate: selections from Panayotakis  Watch Meltdown: The Men Who Crashed the World
7 March 18 (ENG/LIB)	Concept mapping Visual Understanding Environment (VUE) http://vue.tufts.edu  Literature Review RECAP Guest Lecturer: Librarian	Annotated bibliography draft due online

Part 2: On Being Virtually Human (or On Being Human Virtually)

Week	Topics	Online Assignments
8 March 25 (CST/ENG)	A Network of Everything: Ecology, Complexity, and the Ways of being Human	Midterm literature review due online
	Guest Lecturer: Dr. Candido Cabo, Computer Systems Technology, School of Technology & Design	Annotate: Kakalios, "Introduction: Quantum Physics? You're Soaking in It!" and "Section 1: Tales to Astonish"
<b>9</b> April 1	Modeling Real Identity in the Virtual	Case study 3 due
(ENG/ENT)	Guest Lecturer: Dr. David Smith, Interim Dean, School of Professional Studies	Create an avatar in Second Life, then log onto Second Life and go through the orientation.
		https://join.secondlife.com
<b>10</b> April 15	The Vitruvian Man, Le proporzioni del corpo umano secondo Vitruvio Guest Lecturers: Paul C. King, RA	Annotate: Kakalios, "Section 2: Challengers of the Unknown" focus on
(ARCH/MAT)	Architectural Technology, School of Technology & Design and Dr. Janet Liou-Mark, Director of the Honors Scholars Program Mathematics, School of Arts & Sciences	Chapters 6, "The Equation That Made the Future!" and 7, "The Uncertainty Principle Made Easy" and "Section 4: Weird Science Stories"
11 April 22 (MAT/PHYS)	Group proposal presentations and group assignments	Annotate: Kakalios, "Section 6: The World of Tomorrow" focus on
,	Quantum Mechanics and the Soul: The Absence of Evidence is not Evidence of Absence Guest Lecturer: Dr. Reginald A. Blake, Physics, School of Arts & Sciences	Chapter 21, "Seriously, Where's My Jet Pack?" and Hayles, "Conclusion: What Does It Mean to be Posthuman?"
12 April 29 (ENG/ENT)	Final term paper discussion  Group project modeling	Final term paper topic proposal due online

Week	Topics	Online Assignments
13	Group project writing workshop	Annotated bibliography
May 6		due online
(ENG/ENT)	Research Mixer	
		Group project draft due
14	Group project student critiques and	Optional final term paper
May 13	remodeling, as appropriate	daft due (electronic copy)
(ENG/ENT)		
15	Group project presentations	Final term paper due
May 20		
	What does it mean to be virtually human?	
	Group project clean-up City Tech island in	
	Second Life	

# **Bibliography**

- Abdur-Rahman, Pavel. "What are the assumptions behind Neo-Classical Economics?" June 24, 2011. <a href="http://prahman.wordpress.com/2011/06/24/what-are-the-assumptions-behind-neo-classical-economics/">http://prahman.wordpress.com/2011/06/24/what-are-the-assumptions-behind-neo-classical-economics/</a>
- America: The Story of Us, Blu-ray. Directed by Liev Schreiber. New York: A&E Home Video, 2010.
- Anissimov, Michael. "Top Ten Transhumanist Technologies." http://lifeboat.com/ex/transhumanist.technologies
- "Aristotle: Ethics" Internet Encyclopedia of Philosophy, <a href="http://www.iep.utm.edu/aris-eth/">http://www.iep.utm.edu/aris-eth/</a>
- Aristotle. "Nicomachean Ethics." W. D. Ross, trans. The Internet Classics Archive, http://classics.mit.edu/Aristotle/nicomachaen.1.i.html
- Biba, Erin. "Henrietta Everlasting: 1950s Cells Still Alive, Helping Science." *Wired* 18, no. 2 (2010), <a href="http://www.wired.com/magazine/2010/01/st\_henrietta">http://www.wired.com/magazine/2010/01/st\_henrietta</a>
- Bierhorst, John, ed. In the Trail of the Wind. New York: Farrar, Straus and Giroux, 1972.
- Boy I Am, DVD. Directed by Samantha Feder and Julie Hollar. New York: Women Make Movies, 2006.
- Bradley, Jeremy. "Can Second Life Help Teach Doctors to Treat Patients?" *CNN.com*. March 30, 2009. http://www.cnn.com/2009/TECH/03/30/doctors.second.life/index.html
- Brennan, Geoffrey, and Michael Moehler. "Neoclassical Economics." In *Encyclopedia of Political Theory* edited by Mark Bevir, 1-8. Thousand Oaks, CA: Sage, 2010.
- Campbell, Spencer. Meltdown: The Men Who Crashed the World. March 26, 2013. https://www.youtube.com/watch?v=k5q6z\_FpxIY
- Capra, Fritjof. The Web of Life. New York: Anchor Books, 1997.
- Carroll, Sean B. "Lecture 1 Endless Forms Most Beautiful." Howard Hughes Medical Institute. http://www.hhmi.org/biointeractive/evolution/lectures.html
- Clarke, John Henrik. "Why Africana History?" <a href="http://www.hunter.cuny.edu/afprl/clarke/why-africana-history-by-dr.-john-henrik-clarke">http://www.hunter.cuny.edu/afprl/clarke/why-africana-history-by-dr.-john-henrik-clarke</a>
- Crotty, James. "Structural Causes of the Global Financial Crisis: A Critical Assessment of the 'New Financial Architecture'." Political Economy Research Institute, September 2008.

- Dawkins, Richard. The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design. New York: Norton, 2004.
- Dawkins, Richard. The Selfish Gene. 30th ann. ed. New York: Oxford University Press, 2006.
- Descartes, René. "Meditation II. Of the Nature of the Human Mind; and that it is more easily known than the body." <a href="http://www.classicallibrary.org/descartes/meditations/5.htm">http://www.classicallibrary.org/descartes/meditations/5.htm</a>
- Epstein, Randi H. "Pioneer Reflects on Future of Reproductive Medicine." *New York Times*, March 23, 2010, Science section.
- Glannon, Walter. Biomedical Ethics. New York: Oxford University Press, 2005.
- Gleick, James. Chaos: Making a New Science. 20th ann. ed. New York: Penguin, 2008.
- Hayles, N. Katherine. "Conclusion: What Does It Mean to be Posthuman?" Chap. 11 in *How We Became Post-Human*. Chicago: University of Chicago Press, 1999.
- Hidalgo, Marlene. "Interdisciplinary Learning from a Student's Perspective." Cases on Interdisciplinary Research Trends in Science, Technology, Engineering, and Mathematics: Studies on Urban Classrooms, edited by Reneta D. Lansiquot, 1-18. New York: Information Science Reference, 2013.
- Howe, Mitch. "SIMULATIONS: A Singularitarian Primer" Last Modified October 6, 2001 <a href="http://www.sl4.org/archive/0110/2284.html">http://www.sl4.org/archive/0110/2284.html</a>
- Hume, David. "Of National Characters." In *Walkin' The Talk: An Anthology of Africa American Studies*, edited by Vernon D. Johnson and Bill Lyne, 49-51. Prentice Hall: Upper Saddle River, NJ, 2003.
- Huxtable, Richard, and Julie Woodley. "Gaining Face or Losing Face? Framing the Debate on Face Transplants." *Bioethics* 19, no. 5-6 (2005): 505-522.
- Journey of Man: The Story of the Human Species, DVD. Directed by Clive Maltby. New York: PBS Home Video, 2003.
- Kakalios, James. The Amazing Story of Quantum Mechanics: A Math-Free Exploration of the Science That Made Our World. New York: Gotham Books, 2010.
- Kaku, Michio. "The Future of the Mind: The Scientific Quest to Understand, Empower, and Understand the Mind." *The Daily Show with Jon Stewart*, February 25, 2014, <a href="http://thedailyshow.cc.com/videos/6zj4ki/michio-kaku">http://thedailyshow.cc.com/videos/6zj4ki/michio-kaku</a>
- Lehrer, John. "Trials and Errors: Why Science Is Failing Us." *Wired* 20, no. 1 (2012), <a href="http://www.wired.com/magazine/2011/12/ff\_causation/all/1">http://www.wired.com/magazine/2011/12/ff\_causation/all/1</a>

- Leland, John. "Did Descartes Doom Terri Schiavo?" *New York Times*, March 27, 2005. http://www.nytimes.com/2005/03/27/weekinreview/27lela.html
- Leonard, Annie. "The Story of Stuff." <a href="http://www.storyofstuff.org/movies-all/story-of-stuff/">http://www.storyofstuff.org/movies-all/story-of-stuff/</a>
- Lorenz, Edward. Predictability: Does the flap of a butterfly's wings in Brazil set off a tornado in Texas? Washington, DC: AAAS, 1972.
- Matson, John. "What Is Quantum Mechanics Good for?" *Scientific American*, November 2, 2010. <a href="http://www.scientificamerican.com/article.cfm?id=everyday-quantum-physics">http://www.scientificamerican.com/article.cfm?id=everyday-quantum-physics</a>
- Panayotakis, Costas. Remaking Scarcity: From Capitalist Inefficiency to Economic Democracy. New York: Palgrave Macmillan, 2011.
- Padmanabhan, Poornima. "Exploring Human Factors in Virtual Worlds." *Technical Communication* 55, no. 3 (2008): 270-276.
- Perry, Joshua E., Larry R. Churchill, and Howard H. Kirshner. "The Terri Schiavo Case: Legal, Ethical, and Medical Perspectives." *American College of Physicians* 143, no. 10 (2005): 744-748.
- Pinch, Trevor. "What humans know that Watson doesn't" *CNN.com*. February 17, 2011. http://articles.cnn.com/2011/feb/17
- "René Descartes (1596—1650): Overview." Internet Encyclopedia of Philosophy, http://www.iep.utm.edu/descarte/
- Roush, Wade. "Second Earth." Technology Review 110, no. 4 (2007): 38-48.
- "Second Life Quickstart." English Knowledge Base

  <a href="http://community.secondlife.com/t5/English-Knowledge-Base/Second-Life-Quickstart/ta-p/1087919">http://community.secondlife.com/t5/English-Knowledge-Base/Second-Life-Quickstart/ta-p/1087919</a>
- Sebastian, Seung. "I am my connectome." http://www.ted.com/talks/sebastian\_seung.html
- Silverman, Matt. "Why Watson's win doesn't make humanity obsolete—yet" *CNN.com*. February 17, 2011. http://articles.cnn.com/2011/feb/17
- Skloot, Rebecca. The Immortal Life of Henrietta Lacks. New York: Crown Publishing, 2010.
- Slotnik, Daniel E. "Brittany Maynard, 'Death With Dignity' Ally, Dies at 29." *New York Times*, November 3, 2014. <a href="http://www.nytimes.com/2014/11/04/us/brittany-maynard-death-with-dignity-ally-dies-at-29.html?\_r=0">http://www.nytimes.com/2014/11/04/us/brittany-maynard-death-with-dignity-ally-dies-at-29.html?\_r=0</a>
- Something the Lord Made, DVD. Directed by Joseph Sargent. New York: HBO Video, 2005.

- Steger, Manfred B. "Global Culture: Sameness or Difference?" In *Globalization: The Transformation of Social Worlds*, 3rd ed. edited by D. Stanley Eitzen and Maxine Baca Zinn, 147-150. Belmont, CA: Wadsworth, 2012.
- Surf-D. "Editor's Blog: Tom Boellstorff on Being Virtual." Last Modified February 21, 2011. <a href="http://hplusmagazine.com/2011/02/21/tom-boellstorff-on-being-virtual/">http://hplusmagazine.com/2011/02/21/tom-boellstorff-on-being-virtual/</a>
- Swarns, Rachel L. "Mocked in Europe of Old, African Is Embraced at Home at Last."

  New York Times, May 4, 2002.

  <a href="http://www.nytimes.com/2002/05/04/world/mocked-in-europe-of-old-african-is-embraced-at-home-at-last.html">http://www.nytimes.com/2002/05/04/world/mocked-in-europe-of-old-african-is-embraced-at-home-at-last.html</a>
- Turing, A. M. "Computing Machinery and Intelligence." *Mind* 49 (1950): 433-460.
- Turkel, Sherry. Simulations and Its Discontents. Cambridge: MIT Press, 2009.
- Tyson, Neil deGrasse. "Where Did We Come From?" Directed by Mark Marabella. *NOVA ScienceNOW*, February 16, 2011. <a href="http://www.pbs.org/wgbh/nova/evolution/where-did-we-come-from.html">http://www.pbs.org/wgbh/nova/evolution/where-did-we-come-from.html</a>
- Ullman, Ellen. *Close to the Machine: Technophilia and Its Discontents*. San Francisco: City Lights, 2001.
- Washington, Harriet A. Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present. New York: Anchor Books, 2006.
- Weizenbaum, Joseph. Computer Power and Human Reason: From Judgment to Calculation. New York: W.H. Freeman, 1976.
- Wilchins, Riki Anne. "It's Your Gender, Stupid!" In *GenderQueer: Voices from Beyond The Sexual Binary*, edited by Joan Nestle, Clare Howell and Riki Anne Wilchins, 23-32. Los Angeles: Alyson Books, 2002.