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Human Augmentation
Human Cyborgs & More…

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Introduction

This course was taught as a First-Year Experience for incoming freshmen at Baldwin Wallace University (Fall 2015) with a focus on writing. The idea of *remaking humans* through technology is yet a fringe idea to the general public. As such students were relatively unfamiliar with the topic. Mainstream news is only just beginning to flicker with reports.[1]

The course Is comprised of five modules beginning with the student identifying his/her favorite super hero or super villain, assessing the current state of technology for re-making humans, researching social perspectives in the debate on human-enhancing technology, and forecasting both a baseline and alternative future for human enhancement in the Year 2030.

[1] These news reports appeared during Fall semester 2015: 2 Billion Jobs to Disappear; The printed organ coming to a body near you; The U.S. military wants to inject people's brains with painkilling nanobots that could replace medicine; Ray Kurzweil's wildest prediction: Nanobots will plug our brains into the Web by 2030; Should human stem cells be used to make partly human chimera?; World's biggest animal cloning center set to open in '16.

The text, *Radical Evolution: The Promise and Peril of Enhancing Our Minds, Our Bodies—and What It Means to be Human* by Joel Garreau is easy to digest, particularly, in the first few chapters. Things get more challenging around chapter 5 when many names and less familiar ideas are meshed together in the same chapter. But if you stick to the chapter learning objectives and use the Instructor "rdchapter" outlines, then all should be fine.

And here is an excellent overview of Human Augmentation – "The Augmented Human Being: A Conversation With George Church," *The Edge,* 30 Mar 2016, https://www.edge.org/conversation/george_church-the-augmented-human-being.

Assignments build on one another and encourage creativity and the use of the imagination. Discussion and group projects encourage small group interaction for learning and sharing the workload. Perhaps, the most important group assignment is the Baseline. If students do not take Part I & II of the assignment seriously, then not only is the preparation of the Baseline scenario compromised but also the final assignment, the plausible Alternative future is more difficult to do. Despite having in-class work time, some groups still short-changed the Research Reports by putting the "big sports game" outside of class ahead of homework. The Research Reports are class resources used in developing individual assignments.

The course is fun to teach. It brings students up to speed on one of the biggest game-changing social debate of the 21st century.

Description

Intended for 9-12th Grades as a topic course (elective, honors, language arts, social studies)

Note: For planning purposes the course layout is **one week = three-50 minute sessions** which can be modified to accommodate a traditional (50 minute class period) or block schedule (90-120 minute) format.

This course will plunge you into the *soon-to-be* biggest game-changing social debate of the 21st century: ***To what extent should technology be used to re-make human beings***?

Perhaps—and sooner than you think—the super powers of your favorite comic book hero will be available at a pharmacy near you. We know the speed of technological innovation is accelerating. Think Moore's Law! Better yet, think Arthur C. Clark and his Third Law of prediction: *Any sufficiently advanced technology is indistinguishable from magic*. The technologies of nano-info-bio and cognitive science (NIBC) are converging, opening a Pandora's Box of possibilities for enhancing human performance! Where are we on the trend line of human augmentation? Might our incessant drive to eliminate human "frailties" intentionally produce cyborgs? If so, will this transform our perception of human identity and the condition of human nature? Be forewarned. Battle lines are being drawing up. Will you side with bioethicists who argue that we should forego the use of biomedical interventions and conserve human nature or the transhumanists who embrace the new opportunities of Humans 2.0? What are the pros and cons —the moral, ethical, cultural, and legal/ political considerations—in the human augmentation debate?

Writer William Gibson reminds us, "*The future is already here—it's just not very evenly distributed*." Knowledge is the weapon of choice. If being an active participant in this 21st century social debate deciding the future of humans is important to you, then step out of the world of *syfy* and into the world of real human augmentation.