**Philosophy (PHL) 475/575-001 and Religious Studies (REL) 475/575-001**
Oregon State University Spring 2021
Th 4-720pm   Milam Hall 301
Course Credits: 4, Prerequisites: None

Human Technological Enhancement

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Office Hours: Tuesday 1-3pm or by appt.
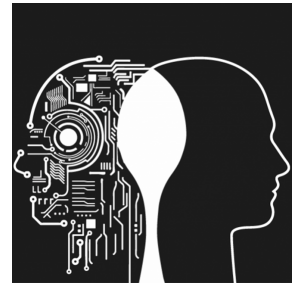
COURSE DESCRIPTION:
Covers analysis and critique of the philosophical and religious implications of technologies that restore or enhance human physical and cognitive capacities. Reflects on the relationships between religion, philosophy, and technology, incorporating theories of the Social Construction of Technology (SCOT) and Science, Technology, and Society (STS). Analyzes examples of human enhancement, including the use of prosthetic limbs, sensory apparatuses, medical enhancement, cybernetics, virtual and augmented reality, nootropics and psychedelics, and life-extension technologies. Applies critical thinking to the complex historical, social, and ethical issues tied to these emergent technologies of human augmentation.

INCLUSIVE CLASSROOM:
We will strive to create an inclusive classroom, without discrimination based upon age, religion, political affiliation, ethnicity, class, gender, sex, or sexual orientation. Respectful disagreement and debate on various issues is encouraged.

INSTRUCTION TYPE AND PREREQUISITES:
Instruction for this course will include lecture and discussion, audiovisual presentations, guest speakers, contemplative and reflective exercises, and research projects with an optional fieldwork component. No prerequisites.

COURSE-SPECIFIC LEARNING OUTCOMES: Philosophy and Religious Studies
Describe the relationships between philosophy, religion, and technology with respect to human technological enhancement. Synthesize and write about ideas regarding the moral and spiritual implications of technology and their relevance to contemporary social issues **[475 and 575]**. Apply specialized disciplinary knowledge to class projects, discussions, and peer reviewing of research and writing, especially through utilizing examples of the application of theories from a field of specialization **[575]**. Identify and develop a disciplinary research project under the guidance of instructor **[575]**. Engage and evaluate contemporary field-specific literature at a graduate level through critical and evaluative disciplinary and professional-level writing. **[575]**.

BACCALEAUREATE CORE LEARNING OUTCOMES: Baccalaureate Core, Synthesis: Science, Technology, and Society. 1. Analyze relationships among science, technology, and society using critical perspectives or examples from historical, political, or economic disciplines. **2.** Analyze the role of science and technology in shaping diverse fields of study over time. **3.** Articulate in writing a critical perspective on issues involving science, technology, and society using evidence as support.

This course fulfills the Baccalaureate Core requirement for the Synthesis: Science, Technology, and Society category.
It does this **[1]** by facilitating analysis of the origins, historical contexts, and implications of technologies of human augmentation, through reading and written analysis of multidisciplinary academic studies of historical and contemporary uses of such technology and its effects on various fields of study; **[2]** through in-class and at-home reflection and evaluation on such readings, as well as on audiovisual presentations

and the use of contemplative technologies; and **[3]** through writing in which students perform original research in which they critique and appraise the utilization of such technology.

| *Analyze relationships among science, technology, and society using critical perspectives or examples from historical, political, or economic disciplines.* | **How does this course align with or meet this specific outcome?**
This course will analyze the historical relationships between science, technology, and society, with a focus on the ways in which technology has transformed religion and spirituality in the 20th and 21st centuries. This includes the ways in which technology has, and continues to be, utilized in the service of religion and spirituality, and the ways in which it, increasingly, has taken over aspects of that domain of human life. This will including extensive analysis of the ways that technology has impacted and will continue to impact human society on political and economic levels, as is evident in issues such as biohacking and bioengineering, lifespan extension, "uploading," and the use of AR and VR, all of which link together science, technology, and society in important ways with respect to religion and spirituality.

What assignments, class activities, discussions are used to address this outcome?
Students will complete weekly reading summaries that deal with historical, political, and economic elements on the interface between religion and technology; these readings will be discussed at length during class meetings; and students will write research papers and perform presentations that demonstrate their ability to perform such analysis.

How is student achievement of this outcome formally measured?
Students' reading summaries will be evaluated for substantive coverage of readings (50%) and for the inclusion of a critical and analytical question (50%); participation will be given credit for attentiveness (50%) and active participation (50%) in discussion; papers will be graded based upon several stages, including topic brainstorm (10%); research proposal (10%); bibliography (10%); staged writing (20% total); first draft (20%); final draft and presentation (30%). The use of analysis, including the identification of underlying structures of knowledge, the ability to distinguish fact from opinion, interpret data, and compare and contrast different worldviews and technologies, will be a focus of the instructor's measurement of this outcome. This will follow the framework of "analysis" in Bloom's Taxonomy. |

Analyze the role of science and technology in shaping diverse fields of study over time.	**How does this course align with or meet this specific outcome?** The reciprocal relationship between technologies and various fields of study will be analyzed in a variety of contexts, among them the ways in which the study of philosophy and of religion have been impacted by the development of neurobiological methods for studying the mind and religious experiences, such as fMRI scanning technologies; the impact on psychology and psychiatry of the development of a range of psychoactive drugs over the course of the 20th and 21st centuries; the impact on engineering (both professional and amateur) of a range of emergent technologies of human engineering and robotics; the use of VR and AR technologies on anthropological studies; and the impact of emergent technologies, such as social media and electronic currency, on key financial and political theories, among others. **What assignments, class activities, discussions are used to address this outcome?** Weekly reading summaries include topics that are directly relevant to the topic (such as the use of fMRI to talk about religious experiences) provide an opportunity to evaluate students' ability to analyze the link between various fields and technologies. Students will develop discussion questions as part of their summary assignment and will have the opportunity to discuss them in class. **How is student achievement of this outcome formally measured?** As above, students' reading summaries will be evaluated for substantive coverage of readings (50%) and for the inclusion of a critical and analytical question (50%); participation will be given credit for attentiveness (50%) and active participation (50%) in discussion. The instructor may also utilize particular students' questions from week to week in order to foster broad participation in course. Again the action words of Bloom's Taxonomy for "analysis" will provide a framework for measurement of activities consistent with analysis, including categorization, comparison and contrast, and interpretation.

Articulate in writing a critical perspective on issues involving science, technology, and society using evidence as support	**How does this course align with or meet this specific outcome?** Students will demonstrate a critical perspective on issues involving science, technology, and society through the writing of a research paper that will provide a critical evaluation of an emergent technology and its potential social impact. The foundation for the project will be guided interdisciplinary research and peer-review, with direct guidance from the instructor. Students will present their research during the final two weeks of the course in the seminar format, allowing for discussion of each paper with their cohort. Throughout the course, students will also be responding in writing to each of the weekly readings and writing a critical and evaluative journal that analyzes the performance of a contemporary wellness or mindfulnes smartphone app. **What assignments, class activities, discussions are used to address this outcome?** The final paper emphasizes critical argumentation skills. Students will need to (1) understand issues related to technology, ethics, and society, (2) critically analyze and take a position on the issue, and (3) develop and defend arguments for their position. Before writing the final paper, students will hand in a brief prospectus first. The prospectus requires students to clearly indicate (1) what ethical/social issues in technology their paper will address, (2) what main claim that they wish to defend in the paper, and (3) what evidence they plan to use to support the main claim. **How is student achievement of this outcome formally measured?** Research papers will be graded based upon several stages, including topic brainstorm (10%); research proposal (10%); bibliography (10%); staged writing and peer review (20% total); first draft (20%); final draft and presentation (30%). The weekly journal will be evaluated based upon students' description of the functions of the app (50%) and their analysis of the app in terms of course topics (50%). Participation will be given credit for attentiveness (50%) and active participation (50%) in discussion. The papers will be a minimum of 3000 words and require 10 outside references, well over the 1250 word and two source requirements. The paper will be evaluated within the framework of critical thinking within Bloom's Taxonomy, which includes the components of remembering, understanding, applying, analyzing, evaluating, and creating.

REQUIRED TEXTS:
1. Selected Readings. Posted on Canvas Learning Management System (see below).

COURSE REQUIREMENTS:
The required course components of the course are: 1. Participation (20 points) 2. Reading Summaries (20 points) 3. Contemplative Tech Journal (20 points) 4. Research Project (40 points). The grade scale for the course is: 100-93 A, 92-90 A-, 89-87 B+, 86-83 B, 82-80 B-, 79-77 C+, 76-73C, 72-70 C-, 69-60 D, 59- F.

1. Class Participation: regular participation in class sessions beyond simple attendance. This includes participation in class discussion, attentiveness during lectures and films, and active involvement in class activities. Exemplary participation may substantively improve final grade.

Please come to class on time. If you need to leave early, please contact the instructor before class. Please silence all electronic devices before class. Laptops are only allowed with preapproval from instructor. Please contact a fellow student for notes if you miss a class. Please schedule appointments, etc. around class time. Only *documented* illnesses and emergencies will be counted as excused absences.

In cases of extended illness or of family emergency, you are encouraged to contact student care for support: https://studentlife.oregonstate.edu/student-care. *Attendance and participation are crucial components of this class*. If you do not attend class, the *highest* grade you can receive in the course is a B-. ***Addresses Baccalaureate Core outcomes #1 and #2.***

2. Reading Summaries: regular completion of weekly reading and writing assignments based on critical-historical, global, and thematic readings on technologies of human augmentation. These consist of a 250-word summary of the assigned reading and a question about the reading, submitted through the Canvas course management system prior to class. Your questions will be used by the instructor to help integrate your interests and perspective on the material with the course content and class discussions.

Summaries will be given credit if satisfactorily completed but *will not* be corrected for accuracy. Summaries should always include your name, a title related to the reading, the date, and your course and section number at the top, a concise summary of the reading, and a question related to the reading posted at the bottom of the page. You should always write one summary per assignment given, even if there are multiple readings in a single assignment. If you do not complete the summaries, the *highest* grade you can receive in this class is a B-. ***Addresses Baccalaureate Core outcomes #1, #2, and #3.***

3. Contemplative Tech Journal: you are asked to pursue the daily use of a wellness or mindfulness app or similar technology for 15 minutes a day for 5 of the 6 days that you are not in class and write one page of reflection on your experience each week.

Options for this project will be discussed in class and must be approved by instructor. This assignment will be submitted through Canvas prior to each class session. Journal entries may be either analytical or creative in nature (or both) but should be written in such a way that they will be appropriate to be turned in to the instructor (who is a mandatory reporter in some circumstances). The goal with this aspect of the class is to create a narrative that reflects your experiments with, and evaluation of, these technologies. ***Addresses Baccalaureate Core outcomes #2 and #3.***

4. Research Project: this is the performance of a critical, analytic, and creative research project that examines a topic that is related to the course and will result in a class presentation and a research paper that reflects a critical engagement with the philosophical, social, and religious implications of emergent technologies and provides suggestions for technology evaluation, design, and development. Instructor will facilitate networking with other OSU faculty for the pursuit of prototyping proposed technology projects,

and students have the option of demonstrating designs in their presentation. In-class writing exercises, including peer review, instruction in the process of research, and sequential assignments will be provided that will facilitate the research process. Graduate students **[575]** will be asked to meet individually with the instructor regarding their project proposal before approval.

The sequential assignments for the writing project will be as follows: 1) topic brainstorm (due 4/08); 2) research proposal (due 4/15); 3) bibliography (due 4/22); 4) writing part one (due 4/29); 5) writing part two (due 5/06); 6) writing part 3 (due 5/13); 7) writing part 4 (due 5/20); 8) full draft (due 5/27 or 6/3); 9) final draft (due 6/10). **The instructor will provide written feedback on writing during each phase of the project through Canvas, and formal peer review with fellow students will be performed in class on 4/29, 5/6, 5/13, and 5/20.**

The final two weeks of class will be reserved for in-class presentations of research. The research paper component will be due by 4pm on Thursday of Finals Week and will be submitted through Canvas. Undergraduate papers **[475]** should be 12-15 pages in length, using at least ten (10) academic sources, double-spaced, and graduate papers **[575]** should be 20-25 pages in length, using at least twenty (20) academic sources double-spaced (using an endnote or parenthetical citation style). Papers should be written using a uniform system of citation (such as Chicago or APA) and include a bibliography. *Addresses Baccalaureate Core outcomes #1, #2, and #3*.

Summary Table of Baccalaureate Core Outcomes (PHL/REL 475):

Student Learning Outcome (SLO)	Assessment Method:			
	Participation	Reading Summaries	Contemplative Tech Journal	Research Paper
STS SLO 1	+	+	-	+
STS SLO 2	+	+	+	+
STS 3 SLO 3	-	+	++	+++

ACADEMIC CALENDAR:
All students are subject to the registration and refund deadlines as stated in the Academic Calendar: https://registrar.oregonstate.edu/osu-academic-calendar

STATEMENT REGARDING STUDENTS WITH DISABILITIES:
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

PERSONAL EMERGENCIES:
If you are experiencing or have experienced insurmountable personal difficulties, physical or sexual abuse, anxiety, or depression, you are strongly encouraged to contact CAPS (http://oregonstate.edu/counsel/) on campus.

STUDENT CONDUCT:
Academic dishonesty, including plagiarism, may result in an "F" for an assignment, an "F" for the course, and your dismissal from the university. Don't risk your academic future in a moment of desperation. The Student Conduct Expectation statement can be found here: https://beav.es/codeofconduct

REACH OUT FOR SUCCESS:
University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic

advisor. Learn about resources that assist with wellness and academic success at oregonstate.edu/ReachOut. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)

TENTATIVE SCHEDULE: (All readings available on Canvas as a PDF or via a weblink)

Week 1 (Th 4/1)
Religion, Philosophy, and Technology
(**Smith, Smart, Johnson, Cutcliffe/Cohen, Geraci**)
Questions: What is the study of STS (Science, Technology, and Society)?
                  What are some of the historical linkages between religion and technology?
                  Why are religion and science typically portrayed as being at odds?

Week 2 (Th 4/8)
Human Engineering
(**Häggström**)
Questions: What, historically speaking, are some key enhancement technologies?
                  What are their long-term social, political, and economic implications?
                  Have, and will, such technologies ultimately have a positive social impact?

Week 3 (Th 4/15)
Capacity Restoration and Augmentation
(**Gert/Culver, Bostrom/Savulescu**)
Questions: What are the ethical differences between therapy and enhancement?
                  How have religions reponded historically to ideas of therapy and enhancement?
                  What are the key political and economic implications of such technologies?

Week 4 (Th 4/22)
Cybernetics, VR and AR, and Contemplative Technologies
(**Hook, Petechuk, Søraker/Brey, Bainbridge**)
Questions: How does "virtuality" relate historically to religious narrative, ritual, and art?
                  How are VR technologies transforming the nature of religious communities?
                  How are they transforming anthropology, philosophy, and religious studies?

Week 5 (Th 4/29)
Nootropics and Performance Enhancement in Sport and Society
(**Jongh, Trothen**)
Questions: What are some of the precursors to modern "nootropics," especially in religion?
                  How have performance enhancing drugs historically affected social competition?
                  How has performance enhancement played into international politics?

Week 6 (Th 5/6)
Psychedelics: Recreation, Restoration, Revelation
(**de Rios, Cole-Turner**)
Questions: What is the history of psychedelic use in traditional and modern societies?
                  What political issues are related to recreational, therapeutic, and religious use?
                  How does neurobiological research impact the study of philosophy and religion?

Week 7 (Th 5/13)
AI, Singularity, and Uploading
(**Herzfeld, Savirimuthu, Scheidt**)
Questions: How do theories regarding AI express "classical" ideas about human nature?
                  How does "uploading" parallel historically religious conceptions of immortality?

Would living forever solve political and economic problems or exacerbate them?

Week 8 (Th 5/20)
Transhumanism
(Fuller/Lipinska, Sandberg, MacCormack)
Questions: What is the history of transhumanist thought in the 19th to 21st centuries?
How have contemporary religious communities responded to transhumanism?
How is transhumanism seen to impact the individual, humanity, and cosmos?

Week 9 (Th 5/27)
Research Presentations
(Groups 1 & 2)

Week 10 (Th 6/3)
Research Presentations, cont.
(Groups 3 & 4)

Week 11 (Th 6/10)
Research Projects due (4pm)

COURSE READING LIST

Bainbridge, W.S. "Transavatars." In *The Transhumanist Reader*, edited by Max More and Natasha Vita-More, 91–99. Hoboken, N.J.: Wiley-Blackwell, 2013.

Bostrom, Nick, and Julian Savulescu. "Human Enhancement Ethics: The State of the Debate." In *Human Enhancement*, edited by Nick Bostrom and Julian Savulescu, 1–22. New York: Oxford University Press, 2009.

Cole-Turner, Ron. "Spiritual Enhancement." In *Religion and Transhumanism: The Unknown Future of Human Enhancement*, edited by Tracy J. Trothen and Calvin Mercer, 369–83. Santa Barbara: Praeger, 2015.

Cutcliffe, Stephen H., and Benjamin R. Cohen. "Overview (STS)." In *Ethics, Science, Technology, and Engineering: A Global Resource*, edited by J. Britt Holbrook, 2nd ed., 4:54–59. Farmington Hills, MI: Macmillan Reference USA, 2015.

De Rios, Marlene Dobkin. "Psychedelic Drugs." In *Encyclopedia of Religion*, edited by Lindsay Jones, 2nd ed., 11:7467–73. Detroit, MI: Macmillan Reference USA, 2005.

Fuller, Steve, and Veronica Lipinska. "Transhumanism." In *Ethics, Science, and Engineering: A Global Resource*, edited by J. Britt Holbrook, 4:410–13. Farmington Hills, MI: Macmillan Reference USA, 2015.

Geraci, Robert. "Technology and Religion." In *Handbook of Science and Technology Convergence*, edited by W.S. Bainbridge and M.C. Roco, 907–17. Switzerland: Springer International Publishing, 2016.

Gert, Bernard, and Charles M. Culver. "Therapy and Enhancement." In *Ethics, Science, and Engineering: A Global Resource*, edited by J. Britt Holbrook, 4:360–64. Farmington Hills, MI: Macmillan Reference USA, 2015.

Häggström, Olle. "Engineering Better Humans?" In *Here Be Dragons: Science, Technology, and the Future of Humanity*, edited by Olle Häggström, 38–84. New York: Oxford University Press, 2016.

Herzfeld, Noreen L. "Artificial Intelligence." In *Encyclopedia of Religion*, edited by Lindsay Jones, 2nd ed., 1:509–13. Detroit, MI: Macmillan Reference USA, 2005.

Hook, C. Christopher. "Cybernetics." In *Encyclopedia of Bioethics*, edited by Stephen G. Post, 3rd ed., 1:533–37. New York, NY: Macmillan Reference USA, 2004.

Johnson, Deborah G. "Social Construction of Technology." In *Ethics, Science, and Engineering: A Global Resource*, edited by J. Britt Holbrook, 4:182–85. Farmington Hills, MI: Macmillan Reference USA, 2015.

Jongh, Reinoud de. "Overclocking the Brain? The Potential and Limitations of Cognition-Enhancing Drugs." In *Rethinking Cognitive Enhancement*, edited by Ruud H. J. Meulen, Ahmed Mohammed, and Wayne Hall, 1–25. Oxford; New York, NY: Oxford University Press, 2017.

Kunin, Seth Daniel, and Jonathan Miles-Watson, eds. "The Nature of a Religion." In *Theories of Religion: A Reader*, 154–61. Edinburgh: Edinburgh University Press, 2006.

MacCormack, Patricia. "Posthuman." In *Gender: Sources, Perspectives, and Methodologies*, edited by Renée C. Hoogland, 291–303. Farmington Hills, MI: Macmillan Reference USA, 2016.

Petechuk, David. "Virtual Reality." In *The Gale Encyclopedia of Science*, edited by K. Lee Lerner and Brenda Wilmoth Lerner, 5th ed., 8:4591–94. Farmington Hills, MI: Gale, 2014.

Sandberg, Anders. "Transhumanism and the Meaning of Life." In *Religion and Transhumanism: The Unknown Future of Human Enhancement*, edited by Tracy J. Trothen and Calvin Mercer, 3–21. Santa Barbara: Praeger, 2015.

Savirimuthu, Joseph. "Singularity." In *Ethics, Science, Technology, and Engineering: A Global Resource*, edited by J. Britt Holbrook, 2nd ed., 4:167–70. Farmington Hills, MI: Macmillan Reference USA, 2015.

Scheidt, Hannah. "The Fleshless Future: A Phenomenological Perspective on Mind Uploading." In *Religion and Transhumanism: The Unknown Future of Human Enhancement*, edited by Tracy J. Trothen and Calvin Mercer, 315–28. Santa Barbara: Praeger, 2015.

Smith, Jonathan Z. "Religion, Religions, Religious." In *Critical Terms for Religious Studies*, edited by Mark C. Taylor, 1998:269–284. Chicago: University of Chicago Press, 1998.

Sørak, Johnny Hartz, and Brey Philip. "Virtual Environments." In *Ethics, Science, Technology, and Engineering: A Global Resource*, edited by J. Britt Holbrook, 2nd ed., 4:498–502. Farmington Hills, MI: Macmillan Reference USA, 2015.

Trothen, Tracy. "The Trans-Athlete and the Religion of Sport: Implications of Transhumanism for Elite Sport's Spiritual Dimension." In *Religion and Transhumanism: The Unknown Future of Human Enhancement*, edited by Tracy Trothen and Calvin Mercer, 351–67. Santa Barbara: Praeger, 2015.