Course code: PHIL 2106
Course title: Philosophy of Technology
Class hours/credits: 3 class hours, 3 credits
Prerequisite: ENG 1101
Pathways: Individual and Society

Catalog Description: A philosophical evaluation of the goals, methods, standards and values involved in technology. How technology has altered the quality of human life. Ethical and political implications of technology. Its role in work, leisure, power and ecology. Whether technology is a threat to freedom, religion, imagination and nature or a constructive force in promoting equality, democracy, rational thinking and economic progress.

RECOMMENDED/TYPICAL/REQUIRED TEXTBOOK (S) and/or MATERIALS*

Ferre, Frederick. Philosophy of Technology. Athens, Ga: University of Georgia Press 1995

*Suggested texts; instructors may choose their own.

COURSE INTENDED LEARNING OUTCOMES/ASSESSMENT METHODS

<table>
<thead>
<tr>
<th>LEARNING OUTCOMES</th>
<th>ASSESSMENT METHODS*</th>
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<tr>
<td>1. Know positions and arguments of various philosophers in regards to technology.</td>
<td>1. Quizzes, oral discussion, exams, papers.</td>
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<td>2. Understand and apply core concepts.</td>
<td>2. Oral discussion, exams, papers.</td>
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<td>3. Understand the main problems in debates about technology.</td>
<td>3. Quizzes, oral discussion, exams, papers.</td>
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<td>4. Evaluate ideas and arguments using logical thinking.</td>
<td>4. Oral discussion, exams, papers</td>
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<td>5. Understand the similarities and differences of different philosophical positions in regards to technology.</td>
<td>5. Quizzes, oral discussion, exams, papers.</td>
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GENERAL EDUCATION LEARNING OUTCOMES/ASSESSMENT METHODS

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<th>LEARNING OUTCOMES</th>
<th>ASSESSMENT METHODS*</th>
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<td>1. KNOWLEDGE: Develop knowledge from a range of</td>
<td>1. Quizzes, oral discussion, exams, papers.</td>
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disciplinary perspectives, and develop the ability to deepen and continue learning.

2. SKILLS: Acquire and use the tools needed for communication, inquiry, analysis, and productive work.

3. INTEGRATION: Work productively within and across disciplines.

4. VALUES, ETHICS, AND RELATIONSHIPS: Understand and apply values, ethics, and diverse perspectives in personal, civic, and cultural/global domains.

2. Oral discussion, exams, papers

3. Oral discussion, group work, and papers.

4. Oral discussion, group work, and papers.

* may vary slightly per instructor to suit their own needs

SCOPE OF ASSIGNMENTS and other course requirements*

A selection of the following assignments should be utilized:

1. Study questions
2. Short answer essays
3. Exam review preparation
4. Group projects
5. Quizzes

* may vary slightly per instructor to suit their own needs

METHOD OF GRADING – elements and weight of factors determining the students’ grade*

This is an example of grade breakdown:

1. Assignments – 20%
2. Mid-term Exam – 25%
3. Final Exam – 30%
4. Quizzes – 10%
5. Group project – 15%

* may vary slightly per instructor to suit their own needs

ACADEMIC INTEGRITY POLICY STATEMENT

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.
COLLEGE POLICY ON ABSENCE/LATENESS

A student may be absent without penalty for 10% of the number of scheduled class meetings during the semester as follows:

<table>
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<th>Class Meets</th>
<th>Allowable Absence</th>
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<tr>
<td>1 time/week</td>
<td>2 classes</td>
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<tr>
<td>2 times/week</td>
<td>3 classes</td>
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<tr>
<td>3 times/week</td>
<td>4 classes</td>
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It is the responsibility of the instructor to keep accurate records of every student’s attendance and to inform each class orally and in writing of the applicable attendance policy during the first two weeks of class meetings each semester.

Excessive Absence
If a student’s class absences exceed the limit established for a given course or component, the instructor will alert the student that a grade of “WU” may be assigned. If a student remains officially registered for a course and never attends that course, a final grade of “*WN” will be assigned. If the student withdraws officially from the course, he/she will be assigned a grade in accordance with the existing withdrawal policy of the College.

Appeals
A student wishing to appeal the excessive absence status and the impending grade should request a meeting with the chairperson of the department in which the course is offered. The chairperson will consult with the instructor to render a decision. A student wishing to appeal a “WU” grade may do so through the Committee on Course and Standards.

Lateness
It is the responsibility of the instructor to keep a record of lateness and to inform each class orally and in writing of the lateness policy during the first two weeks of class meetings each semester.

SAMPLE SEQUENCE OF TOPICS AND TIME ALLOCATIONS*

WEEK ONE: Philosophy and Technology
- Philosophy as the quest for the rational justification of our basic beliefs about distinctively human activities and culture: art, religion, politics and law, social structure and morality, knowledge and science, education, and so forth.
- In different ages philosophy responds to different aspect of the human condition with greater emphasis: thus in the seventeenth century science was the most formidable influence on philosophy.
- In our century technology has provoked much philosophical reflection. Philosophy seeks to clarify what technology means to us; what thought processes feed into it; how we should respond to it. Philosophy asks us to explain and justify our ideas about the nature of technology and the principles we use when we praise our condemn it.
- Philosophy’s logical structure; arguments; premises and conclusion; validity.
- Meaning of “technology” and related terms and their justification
- Technology as a distinctively human production despite seeming similarities in the higher animal world;
- Differences between modern technology and the technologies of earlier ages;
- Modes of thought as “technological”; technology as attitude;
- Imperatives in the creation of modern technologies: masses and their desires and power in the modern marketplace and politics;
- The inevitability of the student facing technological problem, decision-making and side-effects in the future.

WEEK TWO: Technology as an Epistemological Problem
Defining the nature of technology in relation to pure and applied sciences
- Distinguishing technology from practical activity in general
- Effectiveness, durability, accuracy of measurement and other possible criteria of the general aim of technology
- The different forms of technological thinking in different branches of technology
- The logic of technological rules and their basis in scientific laws
- The difference between technological forecast and scientific prediction
- Relations between technology (as technical knowledge), technique (as technical operation) and technic (technical objects)
- Adoption of one or other of these terms as guiding idea as indication of writer’s approach to the problems of technology
- Distinguishing correctly tools (human-powered instruments) from “independently” powered machines
- On the relationship between machines and techniques
- Techniques of invention and artistic creativity

**WEEK THREE:** Technology as an Anthropological Problem: Views of Lewis Mumford

- Why discuss Mumford’s views?
- *Homo faber* versus *Homo sapiens*: animal technology and human technology, and the role of language in the difference
- Life-oriented vs. work or power-oriented technology
- Tenability of above distinction
- Replacement of biotechnics with monotechnics
- Technological organization of state and work; technology and the rise of civilization and the state
- Suppression of personality traits inconsistent with organized work
- From organic activity to organized work
- Exacerbation of these tendencies in modern life and their possible suppression in the future
- Mumford on the pentagon of power
- Mumford on the life and decay of cities and cities as the centers of technology (based on the creation of surplus food and the freeing of other’s for full-time work in the development of crafts
- Criticisms of Mumford’s views
- Mumford and the Garden City movement
- Modern inventions and Mumford’s view of the future and the place of technology in it

**WEEK FOUR:** Technology as a Sociological Problem: Views of Ellul

- Reasons for discussing Ellul’s views; his influence
- Concept of technique: the ambiguity of its successes; solutions of old problems create new ones (compare with Marx)
- Unpredictability of these new effects.
- How this reinforces the domination of modern life by techniques
- Criticism of Ellul’s concept of “domination” here
- Is collective social reality independent of the individuals who compose it? History of this type of question; functional sociology.
- Is man the master or slave of technology? Is this question formulated in a way to allow of an answer?
- How did the domination of man by technique start?
- Priority of means over ends in technological development
- Examples of this from the modern world
- Criticisms of Ellul: unwarranted fatalism
- How similar fears of technology manifest themselves in contemporary USA (and other industrial democracies)

**Exam 1**

**WEEK FIVE:** Ethical Implication of Technology: Prevention of Values and Freedom

- Technology gives us new power. Do we need a heightened sense of responsibility, or even duty (to those unborn, to others, to Nature, to animals, etc.) to go with it?
- Is the work ethic still needed? Is it less necessary with automation?
- Problems of leisure time and retirement; entertainment in the modern, technological world; is there a loss of creativity in the technological world?
- Is technology a means of liberation from nature? Does it increase our freedom to act? Or does it train for drones?
- Technological developments and the increase in social expectations which may not be able to be reasonably satisfied-
- Knowing what to do with technology
- Technology and a reversal of roles and importance of action, imagination and feeling
- Poetic sensitivity and the response to technology
- Technology a destructive on society, morality, nature etc.
- The other side of the coin; how this can be
- The distinctively American orientation to technology in terms of frontier experience

**WEEK SIX: Technology and Social Problems**

- Are new moral theories needed to make sense of our nuclear dilemma
- Technology and the nature of modern work
- How mental is today’s mental work? Technological thought processes and computation as thought
- Technique in management (Dewey’s dissection of management “psychology” as an example of technological thought: Dewey’s analysis as a pattern of how philosophy can study technology)
- Libido in technological society. Marcuse
- Meanings of alienation and relation to technology
- Automation and its effects
- Population increase and the destruction of nature
- Demographic trends and differences in different parts of the world: technology of birth control as a political instrument
- Concepts of ecology
- Idea of economic growth and the destruction of nature
- Science (economics) as a technology

**WEEK SEVEN: Political Implication of Technology**

- What are the political foundations of technology? Do some political systems foster technology more than others?
- Does technology increase authoritarianism or does it promote (if only through education) democratic dialogue?
- Do all groups benefit equally from technology? Can this question be answered in general?
- What is the relation of technology to capitalism?
- Political Implication of Technology
- Is democratic theory (and the market system) really adequate to the imperatives of contemporary technology?
- Making people informed enough to participate in technological decision-making. Dream or possibility?
- Moral dilemmas posed by recent technological developments especially in medicine and the role of the state and law in solution (or rather treatment) of them

**WEEK EIGHT: Socialism and Technology**

- Marx’s ideas on technology and its effects on the world
- General theory of historical materialism
- Early account of alienation; sources
- Automation and the future of technology
- Substantive contemporary socialist claims about technology
- Ambiguities in these claims
- Marx’s definition of man as *Homo faber*
- “Progress” in capitalism to Marx
- Maoist critiques of technology under Russian socialism
- Weaknesses in socialist views of technology:
- inadequate empirical studies
- evidence for emancipatory effects of technology under socialism
- lack of consideration of limits of resources for economic growth they urge

**Exam 2**

**WEEK NINE: Religious Criticisms and Contributions to Technology**

- Analysis of the history of Christianity and its role in the creation and evolution of Western technology
- Threats to religion from technology or possibly the very opposite as technology becomes till more dominant
- Does technology and its thought modes weaken our individual sense of significance and power (and possible connection of this to religion)
- Contrasting the ideal of Christian life with capitalist life
- Work value of craftsmanship and machine production
- Does Christianity need to be brought into line with technological realities?
- Idea of a “religionless” Christianity (as a positive response technology). Criticisms of this idea.
- Christian interpretation of technology as a vocation (subdue the earth). What attitude to nature is implied by this view: How has it affected actual technological “progress?”
- How are our ecological beliefs conditioned by (or by absence of) religious beliefs?
- Buddhism and ecology.

WEEK TEN: Two Existentialist Critiques of Technology

- Meaning of existentialism. Its major themes of freedom, responsibility, bad faith, authenticity and the autonomy of the self.
- Junger’s study of technology in relation the “new” type of humanity who uses it.
- Technology destroys traditional values. It cannot be employed to create any new values. Creative powers of technology only realized when it is at the service of the Gestalt of the worker.
- Views of Ortega y Gasset. Concept of the malleability of human nature and technology as a means to obtaining this.
- Ortega’s three stages of technological growth.
- Withering of imaginative faculty in man. We have lost the ability to will ends. Technology in the hands of the technician alone is an empty form.
- Contrast and comparison of Junger’s and Ortega’s views.
- Criticisms of their ideas.
- Importance of their ideas.
- Influence of their ideas.

WEEK ELEVEN: Metaphysical Views of Technology: Dessauer and Jonas

- Problem solving in technology and in related disciplines.
- Meaning of metaphysics, especially in relation to technology.
- The elements of a technological object form the perspective of its inventor: human purpose, interaction with laws of nature, the inner working out in which the processes of making take on spiritual or mental form.
- Is there a single right answer to a technological problem?
- Above questions as preliminary to consideration of views of Dessauer and Jones.
- Dessauer’s concept of a fourth critique (to supplement and transform Kant’s critical idealism).
- Sources of negative criticisms of technology.
- Three main traits of modern technical objects.
- Dessauer’s theory of a fourth realm.
- Character of inventions to Dessauer.
- Invention-discovers (Einsteinium).
- Problems with Dessauer’s ideas.
- Contrast of artistic with technological creator.
- Aristotelian and Baconian assessments of aim and meaning of knowledge.
- Modern technology as know-how.
- Jonas on transcendence in mankind.

WEEK TWELVE: Metaphysical Views of Technology: Aristotle and Heidegger

- Differences between earlier and modern technology according to Heidegger.
- Obscurity of ends within technological society as a problem for the Aristotelian understanding the techne.
- Overcoming technological nihilism by values inherent in technological activity itself.
- Technology as a disclosing of immanent being (Heidegger).
- Attitude to world behind distinctively modern technologies (Gestalt).
- Other authentic human activities which disclose aspects of Being.
- What Heidegger may mean by Being (the background context which gives meaning to all particular contexts which define experience).
- Concern for Being in Heidegger’s thought.
- Problem of value in Heidegger’s analysis.

WEEK THIRTEEN: Case Studies in the Philosophy of Technology

- Hans Jonas’ argument about technology and ethical responsibility.
- The relationship between nature, technology, and the environment.
- Carolyn Merchant’s understanding of the normative constraints against exploiting nature.
- Artificial intelligence and the possibility and ethics of imitating human intelligence.
- Dennett’s arguments about the model of human consciousness and the ethics of AI.
- Dreyfuss’s argument about Heideggerian AI.
WEEK FOURTEEN: Summary, Discussion.

- Students’ expectations of future technological change
- How should awareness of technological imperative be increased? Role of education
- Poetry and machinery, mysticism and machinery
- Proposals for lessening the destructive side-effects of technology
- Name some modern technological inventions and discuss their effects
- Discussion of how this course has changed ideas about technology

WEEK FIFTEEN: ORAL PRESENTATIONS AND FINAL EXAMINATION

Students will give brief oral reports on what they consider the most important lessons of the course, along with any suggestions for different topics, better selections, or other ideas to make the course more interesting or more relevant to their own concerns or technical programs.

FINAL EXAMINATION

*guidelines from which instructors may select or adapt

Reviewed/Revised by: Laureen Park                                      Date: February 4, 2016