

# General Education Course Proposal

Proposed Course: I T 20 TECHNOLOGY AND SOCIETY Units 3  
Prefix No. Title

Department: INDUSTRIAL TECHNOLOGY School: AGRICULTURAL SCIENCES AND TECHNOLOGY

**GE Category (Indicate one category only):**

Foundation: A1 \_\_\_; A2 \_\_\_; A3 \_\_\_; B4 \_\_\_  
 Breadth: B1 \_\_\_; B2 \_\_\_; C1 \_\_\_; C2 \_\_\_; D<sup>X</sup> \_\_\_; E \_\_\_  
 Integration: B \_\_\_; C \_\_\_; D \_\_\_; International/Multicultural \_\_\_

Existing Course \_\_\_; Revised Course \_\_\_; New Course <sup>X</sup> \_\_\_

Course Included in Current GE Program \_\_\_

New courses require the Undergraduate Course Proposal form in addition to this form.  
 Revised courses require the Undergraduate Course Change Request in addition to this form.

**Proposed catalog description:** Limit course description to 40 words using succinct phrases. Include prerequisites, limitations, lecture/lab hours. Indicate former course number, e.g., (Former Biol 105)

Critical relationship between society and technology. Technology, as it applies to contemporary issues such as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, technology and consumer culture, and technological relations to the natural environment. 3 units

Enrollment limit per section: 50

Expected number of sections per semester – Year 1 <sup>1</sup> \_\_\_; Year 3 <sup>3</sup> \_\_\_

**Attachments:**

1. A statement presenting the ways in which this course meets the Specifications provided in the appropriate section of the General Education Policy as well as in the Policies for Inclusion and Evaluation of General Education Courses.
2. A statement of elements common to all sections of this course, identifying content, objectives, required student activities, grading policy, representative texts, and an approximate schedule for the course. Required student activities include such things as papers, research projects, homework, laboratory and/or studio performance, recitations, participation, attendance, and exams.
3. A typical syllabus for a particular offering of the course.
4. Any special cost factors associated with this course.

**Approval for Inclusion in General Education**

Tony aw 3/16/98 Bill Drake 3.19.95  
Department Chair Date School Curriculum Committee Date

Dennis Ng 3/19/98 Peter Arnold 12/15/98  
School Dean Date General Education Subcommittee Date

Brandt Kehoe 02/2/98  
Associate Provost Date

1/14/98

**Attachment 1-4**  
**General Education Course Proposal**  
**Area D, Lower Division**  
**Social, Political, and Economic Institution & Development**

**Proposed New course: Industrial Technology 20: Technology and Society      3 Units**

**Department: Industrial Technology**

**School: School of Agricultural Sciences and Technology**

**Course Description:**

Critical relationship between society and technology. Technology, as it applies to contemporary issues such as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, technology and consumer culture, and technological relations to the natural environment. 3 units

**Attachment One, Specifications Statement:**

**Courses in Social, Political, and Economic Institutions and Behavior, historical background must:**

- 1. Introduce students to the methodologies and analytical concepts necessary to evaluate society today and promote more effective participation in the human community.**

This course fits the objectives of **General Education Area D, Submission CheckList 2-B: Interdisciplinary Social or Behavioral Science** lower division units. This course will introduce students to the methodologies and analytical concepts for evaluation of society and enhanced participation in the human community. As stated in Attachment 2, the course addresses the following: (Topic 2) "Historical Overview of Technologies" will take a brief look at some broad technological movements which have been defining for cultural periods since ancient times. (Topic 3) "Technology's Politics and Ideology" analyzes the Marxist, mainstream, and social constructionist approaches to technology. (Topic 5) "Technology and Culture" evaluates the social and cultural contexts, as well as the culturally appropriate and inappropriate technologies. (Topic 6) "Technology and Gender" introduces to students how objects and technological knowledge and access are gendered. (Topic 13) "Socially Constructing Technology" discusses the technological momentum and how societies make and remake themselves.

- 2. The course must promote more effective participation in the human community**

This course will promote more effective participation in the human community. (Topic 4) "Technology in America" and (Topic 14) "Technology in the Post-industrial, Post-Modern World" illustrate that technological activities provide the base for the country's economy. As new advances provide more opportunities, the need grows for technologically-skilled

engineers and innovators to develop and maintain a competitive edge in a global economy. (Topic 7) "The Technologies of Home and Leisure," (Topic 8) "Information Technology," (Topic 9) "Work and Technology," (Topic 10) "Military Technology," (Topic 12) "Medical Technology," and (Topic 15) "Technology and Nature" illustrate the need to consider issues and take part in decisions regarding information, land use, pollution control, defense, and restricting or encouraging technological activities. Sound decisions demand an understanding of the impacts, relationships, and costs of such technology activities.

### **3. Study the influence of major social, cultural economic and political forces on social behaviors and institutions.**

Topic 3 studies Marxist, "technology is power," mainstream, and social constructionist approaches. Topic 4 asks, "Was technology the tool or the maker of capitalism? Who controls technology and whom does it control?" Topic 9, "Work and Technology," analyzes if technology liberates or oppresses the worker, and how the current third industrial revolution differs from its predecessors. Topic 15, "Technology and Nature," teaches how the natural environment has become a focal concern of our time, treated variously by geophysicists, ecologists, environmentalists and industrialists. The differences among these approaches reflect respectively different technological relations to the natural environment. The course will study the influence of these major social, cultural, economic and political forces on social behaviors and institutions.

Technology is the most important force shaping society and culture today. Human culture, politics and institutions today are greatly influenced by technological development and its application, thus students should have an understanding of major technological developments of these centuries, the relationship between technology and its social, political and cultural settings, the values individuals have invested in technology, as well as the relationship between technology and the major turning points in the history.

Technology, as a fundamental human activity, is intimately related to all other human activities and thus is an integral, indispensable part of all human culture. To promote more effective participation in the human community, we need to examine fundamental relationships between technology and society.

Many of the decisions we will make in our life, both important and trivial, directly involve technology. To make informed and intelligent decisions of this sort requires a reasonably clear understanding of both technology and society, and of the way technology bears on our desire and value. We want our students to understand and appreciate the relationship between technology and society, and the sets of values and issues, which typically concern humanists.

Technology is contested terrain. It reflects the society and culture in which it is made and used. In particular, it reflects the power and interests of the people and groups who make

and use it and others with the power to shape its creation and use. Technology shapes the work people do; we want to understand how the systems of work shape new technology and what the relationship between new technologies and unemployment is.

We want our students to understand the culture of everyday life--the beliefs and ideals that we as a society and as groups in the society hold—the interaction with technology, how technology is used, and what it means, in a cultural sense.

## **Attachment Two, Elements Common to All Sections of This Course**

### **1. Course Objectives**

This course will use advanced conceptual frameworks to examine fundamental relationships between technology and society. Given that technology is the most important force shaping society and culture today, we will concentrate on the dialectical, interactive shaping of societies and technologies. Many approaches, from technological determinism to neo-Marxism and post-modernism, will be used to address such issues as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, the politics of design, and technology and consumer culture, technology and medicine and technological relations to the natural environment.

### **2. Course Content and Schedule**

#### **Topic 1: Origins of Technologies**

Topics: Defining technology: objects and processes; science, culture, political-economy, and gender. Origins of technologies

#### **Topic 2: Historical Overview of Technologies**

Having gained an intuitive provisional understanding of what technologies are, we take a brief look at some broad technological movements, which have been defining for cultural periods since ancient times. Bolter is concerned in the bulk of his book with explaining electronic technology as defining our time.

Bolter, Turing's Man, ch. 2: Defining Technologies in Western Culture, pp. 15-42.

Manual Technology and the Ancient World

Mechanical Technology and Western Europe

Dynamic Technology and Western Europe

Electronic Technology

The Electronic Brain

#### **Topic 3: Technology's Politics and Ideology**

Topics: Marxist, mainstream [is Marxism mainstream?], and social constructionist approaches; technology as power.

Assignment: Winner, Chs. 1, 2, 5, 6, 7, 8, 10.

**Topic 4: Technology in America**

Topics: Is there a specifically American technological style? Was technology the tool or the maker of capitalism? Who promoted systems and who benefited, who lost? Who controls technology & whom does it control?

Assignment: Marcus & Segal,

**Topic 5: Technology and Culture**

Topics: Social and cultural contexts, engineers' subcultures, culturally appropriate and inappropriate technologies, and the pitfalls of the "single best solution" approach.

Assignment: Pacey, Chs. 1, 2, 3, 6, 8, & 9.

**Topic 6: Technology and Gender**

Topics: How objects and technological knowledge and access are gendered; technology as power; subordination, technological access, and empowerment; is there a feminine style of thinking, of power?

Assignment: Wacjman.

**Topic 7: The Technologies of Home and Leisure**

Topics: The washing machine as a disciplinary device or a labor-saver? Inventing the housewife, hot-rods, boats and working-class power.

Assignment: "Domestic technology"

**Topic 8: Information Technology**

Topics: Cyberspaces or cybercells? Problems of intellectual "property," decentering intellectual labor, the fate of traditional skills and enterprises.

Assignment: Computers and Society

**Topic 9: Work and Technology**

Topics: Does technology liberate or oppress workers? Job enrichment, degradation, or recomposition? How is the current third industrial revolution different from its predecessors?

Assignment: Aronowitz, entire.

**Topic 10: Military Technology**

Topics: Spin-offs: self-serving myths or economic benefits? The political geography and economy of military tech, the problem of post-Cold War demobilization.

Assignment: Markusen & Yukden, entire.

**Topic 11: Designing Useable Technology**

Topics: Aesthetics versus utility? Designs as the prescriptions of the powerful? Can good design liberate, empower, or just ease access?

Assignment: Norman, entire.

**Topic 12: Medical Technology: Diagnosing and Defeating the Enemy Within**

Topics: The economics and efficacy of high-tech medicine, technology in the health-care debate, diagnosis and prescriptions for failure, designer babies.

Assignment: "Medical technology"

**Topic 13: Socially Constructing Technology.**

Topics: How societies make and remake themselves; technological momentum and the remaking of societies, negotiated meanings or impositions by the powerful?

Assignments: Bijker: articles by Pinch/Bijker, Hughes, Callon, MacKenzie, Constant, and Cowan, as well as the appropriate introductory sections.

**Topic 14: Tech in the postindustrial, Post-Modern World.**

Topics: Airborne toxic events; the breakdown (myth?) of systems; media, marketing and technological realities.

Assignments: DeLillo, entire.

**Topic 15: Technology and Nature**

The natural environment has become a focal concern of our time, treated variously by geophysicists, ecologists, environmentalists, naturalists, sportsmen, industrialists, and ordinary people who earn their living from the land. The differences among these approaches reflect respectively different technological relations to the natural environment. While this is a fit subject for an entire course, the two readings this week set up some of the key issues.

Winner, *The Whale and the Reactor*, ch. 7: *The State of Nature Revisited*, pp. 121-37.  
Tijmes, "Why Is Nature Perceived as a Meager Provider?"

**3. Representative Text Books:**

Ihde, Don. *Technology and the Lifeworld: From Garden to Earth*. Bloomington: Indiana Univ. Press, 1990.

Johnson, Deborah G. *Computer Ethics*. 2nd ed. Englewood Cliffs, NJ: Prentice-Hall, 1985, chs. 1, 5.

**4. Recommended Readings:**

Langdon Winner, *The Whale and the Reactor*

Howard Segal and Alan Marcus, *Technology in America*

Arnold Pacey, *The Culture of Technology*

Wiebe Bijker, et al., eds. *The Social Construction of Technological Systems*

Don DeLillo, *White Noise*

Donald A. Norman, *Turn Signals Are the Facial Expressions of Automobiles*

Ann Markusen & Joel Yudken, *Rebuilding the Cold War Economy*

Judith Wacjman, *Feminism Confronts Technology*

Stanley Aronowitz, *The Jobless Future*

*Computers in Society*, fifth edition (Annual Editions)

### **5. Common Required Student Activities:**

- **Group Discussions**
- **Assignments**
- **Examinations**
- **Papers, each section of this course will meet the lower division writing requirement of 2,000 words.**

Students will face three direct assignments and will be graded upon three criteria. First, during the second class meeting, discussion groups will be instructed to read, discuss, and present readings from the recommended list, above. In addition, students will write 5-7 page critical essays on topics of their choice ( 1000 words), and write 7-10 page papers that decode the social-technical place and the cultural meaning of an object of everyday life in our own or another culture (2000 words)

### **6. Common aspects of grading policy include:**

- Regular attendance and participation in class discussions.
- Exams
- Papers

## **Attachment Three, A typical Syllabus for a Particular Offering of the Course**

### **Syllabus**

**Course Description: IT 20 Technology and Society**

**3 Units**

Critical relationship between society and technology. Technology, as it applies to contemporary issues such as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, technology and consumer culture, and technological relations to the natural environment. 3 units

#### **1. Course Objectives**

This course will use advanced conceptual frameworks to examine fundamental relationships between technology and society. Given that technology is the most important force shaping society and culture today, we will concentrate on the dialectical, interactive shaping of societies and technologies. Many approaches, from technological determinism to neo-Marxism and post-modernism, will be used to address such issues as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, the politics of design, and technology and consumer culture, technology and medicine and technological relations to the natural environment. Efforts will concentrate on reading and discussion.

#### **A Note on Academic Honesty:**

Whatever your attitudes toward material property, as mental workers, you must respect intellectual property. Plagiarism (the claim that the ideas of another author are your own)

and cheating are severe crimes and will be met with a failing grade. While you are required to consult written sources and encouraged to work with other students, you are expected to do so with high standards of personal honesty and integrity.

**Required Text Books:**

Ihde, Don. *Technology and the Lifeworld: From Garden to Earth*. Bloomington: Indiana Univ. Press, 1990.

Johnson, Deborah G. *Computer Ethics*. 2nd ed. Englewood Cliffs, NJ: Prentice-Hall, 1985, chs. 1, 5.

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Stanley Aronowitz, *The Jobless Future*

*Computers in Society*, fifth edition (Annual Editions)

**Assignments and Grading Policy**

**1. Papers**

Students will face three direct assignments and will be graded upon three criteria. First, during the second class meeting, discussion groups will be constituted to read, discuss, and present readings from the recommended list, above (10% of the grade). In addition, students will write 5-7 page critical essays on topics of their choice ( 1000 words, 20% of the grade), and write 7-10 page papers that decode the social-technical place and the cultural meaning of an object of everyday life in our own or another culture (2000 words, 30% of the grade).

**2. Examinations**

Midterm Examination      10% of the grade

Final Examination         20% of the grade

**3. Class Participation    10% of the grade**



## **Schedule of Meetings & Topics:**

### **Week 1: Course Introduction.**

Topics: Defining technology: objects and processes; science, culture, political-economy, and gender. Origins of technologies

### **Week 2: Historical Overview of Technologies**

Having gained an intuitive provisional understanding of what technologies are, we take a brief look at some broad technological movements, which have been defining for cultural periods since ancient times. Bolter is concerned in the bulk of his book with explaining electronic technology as defining our time.

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### **Week 3: Technology's Politics and Ideology**

Topics: Marxist, mainstream [is Marxism mainstream?], and social constructionist approaches; technology as power.

Assignment: Winner, Chs. 1, 2, 5, 6, 7, 8, 10.

### **Week 4 : Technology in America**

Topics: Is there a specifically American technological style? Was technology the tool or the maker of capitalism? Who promoted systems and who benefited, who lost? Who controls technology & whom does it control?

Assignment: Marcus & Segal,

### **Week 5: Technology and Culture**

Topics: Social and cultural contexts, engineers' subcultures, culturally appropriate and inappropriate technologies, and the pitfalls of the "single best solution" approach.

Assignment: Pacey, Chs. 1, 2, 3, 6, 8, & 9.

### **Week 6: Technology and Gender**

Topics: How objects and technological knowledge and access are gendered; technology as power; subordination, technological access, and empowerment; is there a feminine style of thinking, of power?

Assignment: Wacjman.

### **Week 7: The Technologies of Home and Leisure**

Topics: The washing machine as a disciplinary device or a labor-saver? Inventing the housewife, hot-rods, boats and working-class power.

Assignment: "Domestic technology"

**Week 8: Information Technology**

Topics: Cyberspaces or cybercells? problems of intellectual "property," decentering intellectual labor, the fate of traditional skills and enterprises.

Assignment: Computers and Society

**Week 9: Work and Technology**

Topics: Does technology liberate or oppress workers? Job enrichment, degradation, or recomposition? How is the current third industrial revolution different from its predecessors?

Assignment: Aronowitz, entire.

**Week 10: Military Technology**

Topics: Spin-offs: self-serving myths or economic benefits? The political geography and economy of military tech, the problem of post-Cold War demobilization.

Assignment: Markusen & Yukden, entire.

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Topics: Aesthetics versus utility? Designs as the prescriptions of the powerful? Can good design liberate, empower, or just ease access?

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Assignments: Bijker: articles by Pinch/Bijker, Hughes, Callon, MacKenzie, Constant, and Cowan, as well as the appropriate introductory sections.

**Week 14: Tech in the postindustrial, Post-Modern World.**

Topics: Airborne toxic events; the breakdown (myth?) of systems; media, marketing and technological realities.

Assignments: DeLillo, entire.

**Week 15: Technology and Nature**

The natural environment has become a focal concern of our time, treated variously by geophysicists, ecologists, environmentalists, naturalists, sportsmen, industrialists, and ordinary people who earn their living from the land. The differences among these approaches reflect respectively different technological