

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

ACADEMIC SENATE

GENERAL EDUCATION COMMITTEE

REPORT TO

THE ACADEMIC SENATE

GE-013-189

IGE 2300: Ways of Doing: Culture, Society and the Sciences (D1 and D3)

General Education Committee

Date: 02/13/2019

Executive Committee  
Received and Forwarded

Date: 02/20/2019

Academic Senate

Date: 02/27/2019  
First Reading  
03/27/2019  
Second Reading

**TITLE OF REFERRAL:** IGE 2300: Ways of doing: Culture, Society and the Sciences (D1 and D3)

**BACKGROUND:**

This is a General Education course and it is part of the IGE sequence already approved for Sub-Area D1 and D3. IGE changed its pre-requisites to IGE 1100 and IGE 1200.

**RESOURCES CONSULTED:**

Office of Academic Programs  
Dennis Quinn

**DISCUSSION:**

The changes do not affect the course and its suitability for the designated sub-areas. Nonetheless, the GE Committee also reviewed the ECO for this course and found it to satisfy the GE Student Learning Outcomes and other requirements for GE Area D1 and D3.

**RECOMMENDATION:**

The GE Committee recommends approval of IGE 2300 - Ways of Doing: Culture, Society and the Sciences (D1 and D3).

Curriculog printout provided for reference only. For most recent changes please refer to Curriculog database (<https://cpp.curriculog.com/>).

## IGE - 2300 - Ways of Doing: Culture, Society, and the Sciences

### C. Course - New/Modify General Education

#### General Catalog Information

Department\*

Interdisciplinary General Education

Proposal Type\*

New GE Course

Modify GE Course

Modification Summary  
changed prerequisites

Establish or  
Modify  
Articulation  
Agreement\*

Yes

No

Subject Area\*

IGE

Catalog Number\* 2300

Formal Course Title\*  
Ways of Doing: Culture, Society, and the Sciences

Abbreviated Course Title\*  
Culture Society and Sciences

Unit(s)\*

(3)

C/S Classification

\*

C-02 (Lecture Discussion)

To view C/S Classification Long Description click: [http://www.cpp.edu/~academic-programs/scheduling/Documents/Curriculum%20Guide/Appendix\\_C\\_CS\\_Classification.pdf](http://www.cpp.edu/~academic-programs/scheduling/Documents/Curriculum%20Guide/Appendix_C_CS_Classification.pdf)

Component\*

Lecture

Contact Hour(s)

Instruction Mode(s)\*

	Face-to-Face
<b>Grading Basis*</b>	Graded Only
<b>Repeat for Credit*</b>	May be taken only once
<b>Repeat for Credit Limit</b>	
<b>If course may be repeated for credit, total units applicable to degree and max units per semester.</b>	
<b>When Offered</b>	
<b>Cross Listed Course Subject Area and Catalog Nbr</b>	
<b>Dual Listed Course Subject Area and Catalog Nbr</b>	
<b>Course Category (select all that apply)*</b>	<input type="checkbox"/> Major Course <input type="checkbox"/> Service Course (used in other programs) <input checked="" type="checkbox"/> GE Course <input type="checkbox"/> None of the above
<b>GE Area/Subarea*</b>	D1 D3

To view the General Education SubArea definitions, click <http://www.cpp.edu/~academic-programs/scheduling/Documents/Ch.3-GeneralEducationProposals.pdf>.

## **I. Catalog Description**

**Catalog Description\*** Explores science, technology, and human purpose in 19th and 20th US history and across various cultures. Investigates scientific revolutions, constructions of science as a way of knowing; ethical frameworks; and gender, class, and race in science and technology in US history of the Industrial Age and the modern world.

## **II. Required Coursework and Background (i.e. Enrollment Requirements)**

**Prerequisite(s)**  
(leave blank if  
none) [IGE 1100 or IGE 1200](#)

**Corequisite(s)**  
(leave blank if  
none)

**Pre or  
Corequisite(s)**  
(leave blank if  
none)

**Concurrent (leave  
blank if none)**

### **III. Course Note(s) (OPTIONAL)**

**Note(s)**

### **IV. Expected Outcomes**

**List the  
knowledge, skills,  
or abilities which  
students should  
possess upon  
completing the  
course.\***

By completing this course, students will:

1. Analyze the theme of technology and human purpose, both historically and currently, in different regions of the U.S. and with other regions and powers.
2. Analyze the social and historical constructedness of science and technology in the U.S.
3. Interpret ethical issues in science and technology especially within the framework of race, class, and gender in the U.S.
4. Evaluate these themes in 19<sup>th</sup> and 20<sup>th</sup> century America through issues regarding scientific revolutions, industrialization, notions of progress, and new forms of individualism and collectivism.

By completing this course, students will meet a developing level of IGE Program Learning Outcomes:

Course and Program Outcomes	PO #1 - Effective Communication	PO #2 - Critical Thinking	PO #3 - Historical, Social, and Multicultural Understanding	PO #4 - Articulation of Values	PO #5 Unders and Apprec of Aest Experi
SLO #1	x	x	x	x	
SLO #2	x	x	x	x	x

SLO #3	x	x	x	x	
SLO #4	x	x	x	x	

IGE 2300 and IGE 2400 together after completion of the third IGE year also fulfill the CPP American Cultural Perspectives graduation requirement:

- a. Introduce theoretical perspectives and non-western/non-traditional approaches for studying gender, ethnicity, and class:

IGE 2300 and IGE 2400 together will employ colonialism among other theoretical approaches for studying gender, race, and class. The courses will also involve ethnoknowledges and ethnosciences as ways to investigate science as a way of knowing.

- b. Include the study of at least one other marker of social difference, such as sexual orientation, religious affiliation, national origin, etc.:

Among other markers of difference the courses will consider national origins, especially the ways in which national origins were employed by dominant groups in the U.S. to construct various immigrant groups as 'other.'

- c. Cover at least two of the following socio-cultural groups: African Americans, Native Americans, Chicano/Latino Americans, Asian Americans, Pacific Islands Americans, Middle Eastern Americans, or European/White ethnic Americans:

The courses will explore African Americans as they move from slavery to 'free' labor in the new American industrial economy including agriculture. The courses will also follow ways in which historical and contemporary struggles to maintain Native American identities influence contemporary Native American environmental activism.

- d. Address intra-cultural differences as well as inter-cultural commonalities. Differences may be examined by focusing on diverse cultural practices, environmental ethics, political histories, religious beliefs, or means of artistic expression:

The courses will explore intra-cultural differences as well as inter-cultural commonalities among some immigrant groups, African Americans, and Native Americans. These differences and commonalities will be examined by studying differences and commonalities of experiences in the U.S., which in turn were affected by differences in cultural practices, religious beliefs, and environmental ethics for example.



**If this is a course for the major, describe how these outcomes relate to the mission, goals and objectives of the major program.**

**Explain how the course meets the description of the GE SubArea(s). Please select appropriate outcomes**

B: Explain how the course meets the description of the GE Subareas.

IGE 2300 together with the following course in the IGE sequence, IGE 2400, will

satisfy areas D1 (including EO1061) and D3 after completion of the third IGE year:

#### **D1: U. S. History and American Ideals:**

'Any course or examination which addresses the historical development of American institutions and ideals must include all of the subject matter elements identified in the following subparagraphs of this paragraph. Nothing contained herein is intended to prescribe the total content or structure of any course.

1. Significant events covering a minimum time span of approximately one hundred years occurring in the entire area now included in the United States of America, including the relationships of regions within that area and with external regions and powers as appropriate to the understanding of those events within the United States during the period under study.

IGE 2300 and IGE 2400 together will examine significant developments in U.S. history through the related themes of technology and human purpose, and sustainability from the era of industrialization to our own time. That examination will necessarily engage interrelated developments within different regions of the nation. IGE 2400 concludes by examining the U.S. in relationship to globalism and the environment, and global citizenship and its responsibilities.

2. The role of major ethnic and social groups in such events and the contexts in which the events have occurred.

The roles of ethnic and social groups, such as immigrant groups and African-Americans, will be examined especially as their experience was shaped by the labor needs of industrialization. Further, the experience of Native Americans will be examined, for example, by how technological developments such as the locomotive contributed to their expulsion from the American West.

3. The events presented within a framework which illustrates the continuity of the American experience and its derivation from other cultures including consideration of three or more of the following: politics, economics, social movements, and geography.'

The courses will analyze how historically the politics and economics of industrialization and the technologies which enabled it gave rise to or transformed various social movements, such as the labor movement and the

burgeoning feminist movement. Further, the courses will examine how the experience of Native Americans mentioned above has contributed to contemporary Native American environmental activism, especially efforts to reclaim and maintain sacred sites threatened by development and pollution. IGE 2400 will also look at how developments in the West as consequences of industrialization have contributed to the modern environmentalist movement's work to reclaim and restore the land.

### **D3: The Social Sciences: Principles, Methodologies, Value Systems, and Ethics**

'Courses in Subarea D3 will integrate critical thinking and analysis. Students will be able to generalize, draw comparisons, detect logical fallacies, and learn that human social, political, and economic institutions and behavior are inextricably interwoven. While the subject matter of each course will emphasize a particular discipline and content, each course should also demonstrate the interrelatedness of these subareas. Therefore, these courses shall include substantial multi-disciplinary coverage of issues so students can connect sometimes fragmented information and draw meaningful conclusions. Problems and issues in these sections should be examined in contemporary as well as historical contexts, and include significant global and cross cultural perspectives.

IGE 2300 and IGE 2400 together will analyze how ideologies of industrialization are rooted in a historically contingent set of values regarding science, technology, and nature. Further, the courses will examine these ideologies' related political, economic, human, ethical, and environmental consequences both positive and negative. Students will analyze and question these ideologies as well as connected racialized and gendered ideologies of technology and enterprise that developed during the industrial era. Students will examine environmental consequences in some detail as that is a central subject of IGE 2400 both in the U.S. and globally. All of this critical examination will be aided by studying alternative cultural value systems as embodied in ethnosciences and ethnoknowledges in a global context, and by contemporary critiques of conventional notions of 'progress,' among which are ecological critiques.

**Describe how these outcomes relate to the associated GE Learning Outcomes listed below.\***

GE Area D1:

1a: Write effectively for various audiences.

Students will be responsible for: two formal essays, 12-15 reading responses to course texts, one reflective essay on group project, three arts events responses, and an introduction to the course portfolio. (Course SLO #1, 2, 3, 4; PO#1, 2, 3, 4, 5, 6, 7)

1b: Speak effectively to various audiences

The class will be conducted in a discussion based mode, students will participate in daily in class activities, small and large group discussions. Also students will conduct research and present to class using various media. (Course SLO #1, 2, 3, 4; PO#1, 2, 3, 4, 6, 7)

1c: Find, evaluate, use, and share information effectively and ethically.

Students will conduct research for group projects on sites that represent science and technology in society such as museums, exhibits, etc, complete an annotated bibliography, and present to class using various media as appropriate. (Course SLO #1, 2, 3, 4; PO#1, 2, 6, 7)

2b: Analyze major literary, philosophical, historical or artistic works and explain their significance in society.

Students will read, analyze, and evaluate works by authors such as Harding, *Life in the Iron Mills*, Melville, *The Tartarus of Maids*, Kuhn, *The Structure of Scientific Revolutions*, Hess, *Science and Technology in a Multicultural World*, Howard Zinn, *A People's History of the United States*, Gloria Steinem, and also analyze museums and exhibits and explain their significance in society. (Course SLO #1, 2, 3, 4; PO#1, 2, 3, 5,7)

2c. Analyze concepts, research methods, and theories pertaining to the study of culture, economics, history, politics, or society.

Students will read and analyze sources on concepts of progress, constructedness of science and technology, theory of science, Marxism, ethnohistory, ethical implications, constructions of race, class, gender in the context 19<sup>th</sup> and 20<sup>th</sup> century US. (Course SLO #1, 2, 3, 4; PO#1, 2, 3, 4, 7)

3a. Analyze the historical development of diverse cultures and the role they play in shaping core institutions and practices of individuals and societies.

Students will analyze the historical development of diverse ethnic groups in the US and the interrelationship of the discourse on race, class, and gender and science and technology in the US, and how race, class and gender have shaped core institutions and practices of individuals and groups. (Course SLO #1,2, 3, 4; PO#1, 3).

GE Area D3:

1a: Write effectively for various audiences.

See above.

1c: Find, evaluate, use, and share information effectively and ethically.

See above.

2c. Analyze concepts, research methods, and theories pertaining to the study of culture, economics, history, politics, or society.

See above.

3a. Analyze the historical development of diverse cultures and the role they play in shaping core institutions and practices of individuals and societies.

See above.

3b: Analyze principles, methods, value systems, and ethics of social issues confronting local and global communities.

Students will question and analyze principles, methods, and value systems of racial and gendered ideologies of enterprise and technology in US and describe global implications. (Course SLO #1,2, 3, 4; PO#1, 2, 3, 4, 7).

4a: Analyze the factors that contribute to individual well-being (such as physical, mental, nutritional, emotional, intellectual, spiritual, financial, social, or environmental)

Students will reflect on their learning and intellectual development, and articulate their values in various reading responses, the group project reflective essay, the arts events responses, and the introduction to their portfolios. (Course SLO #1,2, 3, 4; PO#1, 2, 3, 4, 7).

**General Education  
Outcomes\***

Ia. Write effectively for various audiences

Ib. Speak effectively to various audiences.

Ic. Find, evaluate, use, and share information effectively and ethically.

IIb. Analyze major literary, philosophical, historical or artistic works and explain their significance in society.

IIc. Analyze concepts, research methods, and theories pertaining to the study of culture, economics, history, politics, or society.

IIIa. Analyze the historical development of diverse cultures and the role they play in shaping core institutions and practices of individuals and societies.

IIIb. Analyze principles, methods, value systems, and ethics of social issues confronting local and global communities.

To view the mapping, click <https://www.cpp.edu/~academic-programs/Documents/GE%20SLO%20Mapping.pdf>

## **V. Instructional Materials**

Provide bibliography that includes texts that may be used as the primary source for instruction, and other appropriate reference materials to be used in instruction. The reference list should be current, arranged alphabetically by author and the materials should be listed in accepted bibliographic form.

### **Instructional Materials\***

Required texts:

Zinn, Howard. *A People's History of the United States*. New Ed. New York: HarperCollins, 2005.

IGE 2300 Online Reader may include readings such as:

Takaki, Ronald. "Aesculapius Was a White Man". In: *The "Racial" Economy of Science: Toward a Democratic Future*. Ed. Sandra Harding. Indianapolis: Indiana University Press, 1993.

Keller, Evelyn Fox. "The Force of the Pacemaker Concept". In: *Reflections on Gender and Science*. New Haven: Yale University Press, 1986.

Carnegie, Andrew. "The Gospel of Wealth". In: Davis, Rebecca Harding. *Life in the Iron Mills*. Ed. Cecelia Tichi. New York: Bedford/St. Martin's, 1998.

Lewontin, R.C., Steven Rose, and Leon J. Kamin. "IQ: The Rank Ordering of the World". In: *The "Racial" Economy of Science: Toward a Democratic Future*. Ed. Sandra Harding.



Indianapolis: Indiana University Press, 1993.

Davis, Rebecca Harding. "Life in the Iron Mills". *Life in the Iron Mills*. Ed. Cecelia Tichi. New York: Bedford/St. Martin's, 1998.

Takaki, Ronald. "The Iron Horse in the West". In: *Iron Cages: Race and Culture in 19th-Century America*. Oxford: Oxford University Press, 2000.

Steinem, Gloria. "If Men Could Menstruate". In: *Outrageous Acts and Everyday Rebellions*. New York: Henry Holt, 1983.

Hess, David J. "The Origins of Western Science". In: *Science and Technology in a Multicultural World: The Cultural Politics of Facts and Artifacts*. New York: Columbia University Press, 1995.

Hess, David J. "Other Ways of Knowing and Doing". In: *Science and Technology in a Multicultural World: The Cultural Politics of Facts and Artifacts*. New York: Columbia University Press, 1995.

"Pilgrim's Progress: Male Tales Told during a Life in Physics"

Traweek, Sharon. *Beamtimes and Lifetimes: The World of High Energy Physicists*. Cambridge: Harvard University Press, 1992.

Ottaviani, Jim, Donna Barr, Mary Fleener, and Ramona Fradon. "Rosalind Franklin". In:

*Dignifying Science: Stories About Women Scientists*. G.T. Labs, 2003.

Melville, Herman. "The Tartarus of Maids". In: Rebecca Harding Davis. *Life in the Iron Mills*. Ed. Cecelia Tichi. New York: Bedford/St. Martin's, 1998.

Colpinto, John. "The True Story of John Joan".  
<http://www.infocirc.org/rollston.htm>

Jones, James. "The Tuskegee Syphilis Experiment: A Moral Astigmatism". In: Jones, James. *The "Racial" Economy of Science: Toward a Democratic Future*. Ed. Sandra Harding. Indianapolis: Indiana University Press, 1993.

Keller, Evelyn Fox. "A World of Difference" In: Keller, Evelyn Fox. *Reflections on Gender and Science*. New Haven: Yale University Press, 1986.

Videos: *The Day After Trinity*. (KTEH, 1981)

*Neanderthals on Trial.* (Nova, 2002)

Faculty are encouraged to make all materials accessible. Indicate with an asterisk those items that have had accessibility (ATI/Section 508) reviewed. For more information, <http://www.cpp.edu/~accessibility>

## **VI. Minimum Student Materials**

List any materials, supplies, equipment, etc., which students must provide, such as notebooks, computers, internet access, special clothing or uniforms, safety equipment, lockers, sports equipment, etc. Note that materials that require the assessment of a fee may not be included unless the fee has been approved according to University procedures.

### **Minimum Student Materials\***

Assigned texts, notepaper, and other usual student materials.

## **VII. Minimum College Facilities**

List the university facilities/equipment that will be required in order to offer this class, such as gymnastic equipment, special classroom, technological equipment, laboratories, etc.

### **Minimum College Facilities\***

A classroom with moveable desks and ability to access visual aids, VCR and DVD equipment, PC and projector.

## **VIII. Course Outline**

Describe specifically what will be included in the course content. This should not be a repetition of the course description but an expansion that provides information on specific material to be included in the class, e.g. lecture topics, skills to be taught, etc. This should not be a week-by-week guide unless all instructors are expected to follow that schedule.

### **Course Outline\***

1. Math/Science Autobiography.

2. Theory of Science such as Kuhn and Hess.
  
3. Social and historical constructedness of science and technology as represented in cultural narratives and metaphors.
  
4. Ethics in science and technology (various case studies, 19<sup>th</sup> and 20<sup>th</sup> US history and global)
  
5. Science and technology in US and global perspective.
  
6. Development of racial and gendered ideologies of enterprise and technology in American industrial and modern era.
  
7. Role of diverse ethnic groups in US industrialization.
  
8. Major events in US industrialization and social movements.
  
9. Workers and immigration.

10. The relationships between technology/industrialization and western settlement, colonialism, and native peoples.

## **IX. Instructional Methods**

**Describe the type(s) of method(s) that are required or recommended for the instruction of this course (lectures, demonstrations, etc.). Include any method that is essential to the course, such as the use of particular tools or software.**

### **Instructional Methods\***

Interactive approaches which require student responsibility for learning, including small group discussion, group and individual projects, and independent activities.

## **X. Evaluation of Outcomes**

**Describe the methods to be used to evaluate students' learning, i.e. written exams, term papers, projects, participation, quizzes, attendance, etc.\***

Evaluation of students is based on:

1. In class participation (small and large group discussions and activities).
2. Two 5-6 page papers, which are an extended inquiry integrating research, class discussions and readings.

3. 12-15 written responses (1-2 pages) to assigned readings.

4. Small-group, collaborative research project including an annotated bibliography and in-class presentation.

5. A portfolio of written work.

6. Participation in and responses to three arts events.

**Describe the required meaningful writing assignments to be included. \***

- Students are required to write 12-15 responses (1-2 pages each) to daily/weekly readings that instructors should grade and return promptly.

- Students are also required to write two 5-6 page formal essays on prompts provided by instructor. These are graded according to the IGE 6 point rubric to provide feedback. Students also have the opportunity to revise their essays for submittal in their portfolios at the end of the semester.

- Students are required to submit three 1-2 page responses to arts events.
  
- Students are required to complete a reflective essay on their group projects.
  
- Students are responsible for compiling all of their work and submitting a portfolio at the end of the semester. The portfolio will include an introduction (1-2 pages) that will summarize their learning over the semester.

**Discuss how these methods may be used to address the course and program outcomes, as appropriate. Include or attach a matrix to align the evaluation methods to the outcomes.\***

**IGE 2300 course outcomes and evaluation methods**

	SLO #1	SLO #2	SLO #3	SLO #4
In class participation				

(small and large group discussions and activities)	x	x	x	x
Two 5-6 page papers, which are an extended inquiry integrating research, class discussions and readings	x	x	x	x
12-15 written responses (1-2 pages) to assigned readings.	x	x	x	x
Small-group, collaborative research project including an annotated bibliography and in-class presentation	x	x	x	

<p>A portfolio of written work</p>	<p>x</p>	<p>x</p>	<p>x</p>	<p>x</p>
<p>Participation in and responses to three arts events.</p>	<p>x</p>	<p>x</p>		



**IGE 2300 evaluation methods and IGE program outcomes**

	PO #1 - Effective Communication	PO #2 - Critical Thinking	PO #3 - Historical, Social, and Multicultural Understanding	PO #4 - Articulation of Values	PO #5 - Understanding and Appreciation of Aesthetic Experiences	PO Info Lite
In class participation  (small and large group discussions and activities)	x	x	x	x		x
Two 5-6 page papers, which are an extended inquiry integrating research,						

class discussions and readings	x	x	x	x		x
12-15 written responses (1-2 pages) to assigned readings.	x	x	x	x		x
Small-group, collaborative research project including an annotated bibliography and in-class presentation	x	x	x	x		x
A portfolio of written work	x	x	x	x	x	x
Participation in and responses to three arts events.	x				x	


Assessment of IGE Program learning outcomes is based on:

1. Student self-evaluation, at the beginning and at the end of the quarter.
2. Exit interviews.

3. Survey to determine if stated educational outcomes were met, giving students the opportunity to describe what they learned in class and to suggest how the course might be improved.

4. Review of student portfolios.

**If this is a general education course, discuss how these methods may be used to address the associated GE Learning Outcomes listed below. Include or attach a matrix to align the evaluation methods to the outcomes.\***

**IGE 2400 evaluation methods and GE SLOs**

	GESLO1a	GESLO1b	GESLO1c	GESLO2b	GESLO2c	GESLO3a	GESLO3b	GESLO4
GE SLOs								

<p>In class participation  (small and large group discussions and activities)</p>		x	x	x	x	x	x	
<p>Two 5-6 page papers, which are an extended inquiry integrating research, class discussions and readings</p>	x		x	x	x	x	x	
<p>12-15 written responses (1-2 page) to assigned readings.</p>	x			x	x	x	x	
<p>Small-group, collaborative research project including an annotated</p>								

bibliography and in-class presentation	x	x	x	x	x	x	x	
A portfolio of written work	x							x
Participation in and responses to three arts events.	x							x

**XI. Course/Department/College Specific Requirements (OPTIONAL)**

**Department/  
College Required  
ECO Information  
(Optional)**

This course is one of the integrated IGE sequence courses. No single course alone within the IGE sequence grants credit GE. Students are encouraged to complete the entire seven-course sequence, though they may opt out after the first, second, or third years to receive GE credit. Under semester calendar, they must begin in IGE 1100 (usually fall their first year) and complete the first two classes to earn A2 and C3. Then they continue to the second year (C1 and C2), third year (D1 and D3), and then fall of the fourth year (C4/D4), an upper division

interdisciplinary synthesis capstone course for IGE students to complete the program.

**FOR OFFICE OF ACADEMIC PROGRAMS USE ONLY**

**AY Proposal Submitted** 2018-2019

**AY Proposal Implemented**

**PS Academic Group** 50-CEIS

**PS Academic Organization** 376-IGE

**Course Type** Interdisciplinary General Education

**Impact Report (for modified courses only)**  Attached

**FOR ACADEMIC SENATE OFFICE USE ONLY**

**Senate Referral Number** GE-013-189

**Senate Report Number**