

**San José State University**  
**College of Social Sciences, Department of Geography & Global Studies**  
**GLST156 – Technology of the Modern World, Section 01, Course #47737, Fall,**  
**2017**

**Course and Contact Information**

<b>Instructor:</b>	Kerry Rohrmeier, Ph.D.
<b>Office Location:</b>	Washington Square 113A
<b>Telephone:</b>	(408) 924-5497 Office
<b>Email:</b>	<a href="mailto:kerry.rohrmeier@sjsu.edu">kerry.rohrmeier@sjsu.edu</a>
<b>Office Hours:</b>	Tuesdays 11:30am-1:30pm, and by appointment
<b>Class Days/Time:</b>	Tuesdays 1:30-2:45pm, and online
<b>Classroom:</b>	Clark Hall 224

**Course Format & Instructor Messaging**

This is a hybrid course with many in-class active learning exercises. All course resources can be found on the GLST156 [Canvas](#) webpage using your 9-digit SJSU ID and password. You are responsible for regularly checking this website for the latest information and communication. Please log in and follow the ‘Getting Started’ steps. It is easiest to reach me via email but do consult the syllabus first, or you might receive an “it’s in the syllabus,” reply.

**Course Description**

(From SJSU Catalog) Analysis of development and diffusion of technology since 1500. Interrogate historical narratives of modern technology, reflecting on broader ethical, political, human significance of modern technology. Ecological impacts of technologies. Power, problems, promise of technology. 3-units.

This course is a survey of the development and diffusion of technology past to present, although primary emphasis will be on the 20<sup>th</sup> and 21<sup>st</sup> centuries. A major theme in the course is how technology is shaped by society and culture, and how, in turn, technology shapes society and culture. We will investigate uses, applications, meanings of, and debates about technology and explore how it is regulated by governments, steered by social change, and made meaningful by cultures through the examination of ideas, institutions, and practices in geographic and historical context. Students are implored to examine the power, problems, and promises of technology, and its ecological impacts to the globalized world by interpreting historical narratives with the broader ethical, political, and public rhetoric and discourse. This course aims to further develop student academic reading, writing, and critical thinking skills.

**Course Learning Outcomes (CLO)**

Upon successful completion of this course, students will be able to:

1. *Evaluate and apply diverse perspectives to complex subjects within natural and human systems in the face of multiple and even conflicting positions (i.e. cultural, disciplinary, and ethical).*

Students will demonstrate their perspectives in a panel-style conference discussion of assigned readings and during in-class active participation exercises. In addition, students will argue the impact of technological determinism on contemporary society in a written final exam.

2. *Demonstrate sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, and/or beliefs and practices.*

Students will write their own opinions, and then engage with classmate responses, on current social sciences prompts posted to course online forums throughout the term. Students will also prepare Use Case presentations covering product technology history while framing values, politics, and economic conditions at the time of debut.

3. *Apply knowledge and skills to develop sophisticated, appropriate, and workable solutions to address complex global problems using interdisciplinary perspectives independently or with others.*

Students will work in groups to craft white papers addressing technology applications for preservation in multicultural community hotspots.

4. *Describe and illustrate the role of foreign language, study abroad, and intercultural competence in building knowledge of other cultures and global issues. Interprets intercultural experiences from the perspectives of own and more than one other worldview.*

Student pairs will be using video conferencing tools to collaborate with students in Germany to generate bilingual infographics covering varied technology history topics for display in a student poster session to be judged by a local professional.

5. *Use deep knowledge of the historical and contemporary role and differential effects of human organizations and actions on global systems to develop and advocate for informed, appropriate action to solve complex problems in the human and natural worlds.*

Students will learn contemporary smartphone methods for field data collection to address historic settlements with the goal of advocating recognition of unique or historic sites in downtown San Jose. Students will then analyze their collective data and results to be presented an easily communicated manner.

6. *Uses appropriate, relevant, and compelling content, using high-quality, credible, relevant interdisciplinary sources, to illustrate subject mastery, conveying the writer's understanding, and shaping the whole work.*

Student groups will use the breadth of contents assigned for each class when leading an in-class themed discussion. Students will also write a film critique that ties their learning to the larger discipline.

## **Required Texts, Readings & Materials**

Required academic readings are linked to the course schedule. Additional materials are listed below:

### Audio or print book:

Jacobsen, Annie. 2014. *Operation Paperclip: The Secret Intelligence Program that Brought Nazi Scientists to America*. New York: Little, Brown & Co.

### Media Programs

HBO “Silicon Valley” (Mike Judge, 2014-Present), Netflix “Black Mirror” (Charlie Brooker, 2011-Present, USA Mr. Robot (Sam Esmail, 2015-Present)

### Technology

Google Earth/  
Google MyMap Smartphone App

### Course Requirements and Assignments

SJSU classes are designed such that to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on.

- 1) Active **Participation** during all in-class exercises is mandatory and imperative to one’s overall success in this course since we will be covering topics to support the weekly online prompt assignments (CLO1).
- 2) Students will be placed into (three or four person) teams tasked to lead the class in a **Group Presentation** and discussion on a themed topic per the course schedule (CLO6). Student groups must meet with the instructor via Google Hangout the week prior to their assigned date to go over their proposed outline and content. All members of the group receive the same grade.
- 3) Engaging in an **Online Prompt** discussion requires each student to post his/her individual response to an instructor’s prompt along with providing additional commentary on their classmate’s contributions (CLO2).
- 4) Science fiction is a film genre that often speculates on future technologies, many of eventually become commonplace. Each student will select from the instructor-approved movie list and write a 1,500-word **Film Critique**. The goal is to explain how the film reflects contemporary culture, politics, economics, or social issues at the time of release (CLO6). Keep in mind the historical context and paradigms that were in place and discuss how the film holds up today? If the film is a recent release, then consider where industry is in the development of the technologies shown on the film. Critiques must be double-spaced using 12-point Times New Roman font with 1” margins on all sides.
- 5) Students will work in pairs to craft an **Existing Conditions Inventory** communicating background research and smartphone application data collection and analysis to address the existing building conditions in one of downtown San Jose’s architecturally historical and multicultural neighborhoods – Delmas Park to be used in a larger CommUniverCity project (CLO3 and CLO5). This should be written for a layperson audience, and in this case, will be geared for use by a local community members. Most technical report are 6-8 pages (approximately 3,500-words) containing charts, graphs, photos, and maps. Written work should be in 12-point Times New Roman font with 1: margins on all sides, single-spaced and formatted with in-text charts, graphs, or maps using Chicago-style citation format. All members of the group receive the same grade.
- 6) Students will work in pairs to collaboratively develop an **Infographic** poster communicating a major technological invention of the twentieth century (CLO4). Infographics rely on data visualization and imagery to communicate more than text. Each infographic will be printed in color on 11”x17” paper for

display during a student poster session during class.

- 7) A popular nonfiction work has been selected to accompany academic readings to be discussed in the **Audiobook Panel** (CLO1). Panelists will be charged to comment on text-specific questions in person – these will be selected and moderated by the instructor. The goal is that panelists take different perspectives or approaches to answering each question.
- 8) Product innovations are not always successful even when they may lead to groundbreaking technologies. There are several notable, and costly, failures in history such as the Segway, Betamax, Apple Maps, Laser Disc, Google Glass, Iridium Satellite Network, Gizmondo, Microsoft Clippy, iSmell, GoogleWave, CueCat, New Coke, Olestra, Mizar Flying Car, and Ford Edsel (many of which you may not have heard about). Each student will re-evaluate a failed product to prepare his/her **Use Case** PowerPoint presentation ‘deck’ comprising just 6 slides. These include: 1) title, 2) proposed significance on society at the time of debut, 3) a description of the target customer segment, 4) the value proposition/product differentiation from other similar items on the market at that time, 5) its anticipated versus actual sales, and 6) the most important, a discussion of what this technology evolved into if it was a stepping-stone to something larger (CLO2). Tell a compelling story in as few words as possible, and never underestimate the power of images, graphics, charts, and maps to convey your message.
- 9) The **Final Exam** is a single essay prompt. You must clearly argue in a written essay whether we are or are not embarking on an age of technological determinism, and provide examples to support this position from contemporary society (CLO 1).

### Grading Policy

	<b>Points Possible</b>
Group Presentation	150
5 Online Prompts	150 (30 each)
Film Critique	75
SJSU GIS Day	25
Delmas Park Walking Tour	25
Existing Conditions Inventory	250
Infographic	75
Audiobook Panel	100
Use Case Presentation	50
Final Exam Essay	100
<b>TOTAL</b>	<b>1,000</b>

### SCALE:

<b>A+</b> = ≥98%	<b>A</b> = 94-97%	<b>A-</b> = 90-93%
<b>B+</b> = 87-89%	<b>B</b> = 84-86%	<b>B-</b> = 80-83%
<b>C+</b> = 77-79%	<b>C</b> = 74-76%	<b>C-</b> = 70-73%
<b>D+</b> = 67-69%	<b>D</b> = 60-66%	<b>D-</b> = 51-59%
		<b>F</b> = ≤50%

All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades. In keeping with this policy, and to making grading responsive. All assignments are due as stated on the Course Schedule and Canvas. **Late work is not accepted.** If you have questions about your final grade please make an

appointment to see me.

## **Classroom Protocol**

- Attendance is mandatory.
- On-time arrival is good practice and polite.
- There will be appropriate time to use technology and electronic devices, but when the instructor is speaking and students are presenting then these distractions will be confiscated.
- Background materials must be reviewed prior to dates listed for successful participation in discussions and lectures.
- Always be respectful of your classmates, even when your opinions differ.

## **University Policies**

### **General Expectations, Rights and Responsibilities of the Student**

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow when questions or concerns about a class arises. To learn important campus information, view University Policy S90-5 at <http://www.sjsu.edu/senate/docs/S90-5.pdf> and SJSU current semester's Policies and Procedures, at <http://info.sjsu.edu/static/catalog/policies.html>. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not address the issue, it is recommended that the student contact the Department Chair as the next step.

### **Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at [http://www.sjsu.edu/provost/services/academic\\_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The Late Drop Policy is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at <http://www.sjsu.edu/advising/>.

### **Consent for Recording of Class and Public Sharing of Instructor Material**

University Policy S12-7, <http://www.sjsu.edu/senate/docs/S12-7.pdf>, requires students to obtain instructor's permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
  - It is suggested that the greensheet include the instructor's process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated

material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

### **Academic integrity**

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at <http://www.sjsu.edu/studentconduct/>.

### **Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at [http://www.sjsu.edu/president/docs/directives/PD\\_1997-03.pdf](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

# GLST156 / Technology of the Modern World: Technology & Society, Fall 2017, Course Schedule

This schedule is subject to change with fair notice. Changes will be announced on Canvas and at the start of class. All readings are provided on the Canvas 'Files' tab.

## Course Schedule

Date	Topics, Readings, Assignments, Deadlines
8/29	<p><b>WHAT IS TECHNOLOGY?</b>            Getting Started – Syllabus, Assignments, Expectations            Intro Lecture Topic:            Christian, David and William H. McNeill. 2011. <i>Maps of Time: An Introduction to Big History</i>. Berkeley: University of California Press: 490-491.            Heilbroner, Robert. "Do Machines Make History?" <i>Technology and Culture</i> 8, no. 3 (July 1967): 335-345.            Marx, Leo. "Technology: The Emergence of a Hazardous Concept." <i>Technology and Culture</i> 51 (July 2010): 561-577.            Marx, Leo and Smith, Merit Roe. 1998. <i>Does Technology Drive History: The Dilemma of Technological Determinism</i>. Cambridge: MIT Press: ix-xv (Intro)</p>
8/30-9/4 Online	<p>In preparation for Culture &amp; Identity read:            Cowan, Ruth Schwartz. 1987. Less Work for Mother? Modern Technology Enables the Housewife to do much more in the house than ever before. That's good and not so good. <i>American Heritage</i> 38 (6).            Hollon, Larry. "Online Communion Sparks Questions for Digital Age." <i>The Huffington Post</i>. (October 4, 2013).            Fowler, Susan J. Reflecting on One Very, Very Strange Year at Uber            Turner, Fred. "Where the Counterculture Met the New Economy: The Well and the Origins of Virtual Community." <i>Technology and Culture</i> 46 (3) 2005: 485–512.  <b>Due: Film Critique</b></p>
9/5	<p><b>CULTURE &amp; IDENTITY</b>            The presentation of Black Rock City as a post apocalypse or dystopian future            "Black Mirror" and discussion</p>
9/6-9/11 Online	<p>In preparation for Built Environment read:            Campbell-Dollaghan, Kelsey. "The Most Isolated Town on Earth wants a Redesign"            Mandal, Dattatreya. "A Gander at 5 Advanced Man-Made Structures in Antarctica, The Realm of 'Science Fiction.'" <i>Hexaplex</i>. (November 28, 2014)            Ouroussoff, Nicolai. "In Arabian Desert, a Sustainable City Rises." <i>The New York Times</i>. (September 25, 2010)            Watkins, Derek. "What China has been up to in the South China Sea." <i>The New York Times</i>. (October 27, 2015)  <b>Due: Attend the Delmas Park neighborhood walking tour on 9/11 (5-7pm). Meeting point: VTA Light Rail @ San Fernando &amp; Delmas</b></p>
9/12	<p><b>BUILT ENVIRONMENT</b> Guest Speaker: Nicole Guzman, CommUnivCity            The expanding desert. The frontier for urban experimentation?</p>

Date	Topics, Readings, Assignments, Deadlines
9/13-9/18 Online	<p>In preparation for Human Health read:</p> <p>Finkel, Michael. "This Little Kidney Went to Market." <i>New York Times Magazine</i>, no. 27 (May 2001).</p> <p>Gawande, Atul. "The Score: How Childbirth Went Industrial." <i>The New Yorker</i>, 82 (32) October 9, 2006.</p> <p>Hudson, Kathy L., et al. "Genetic Discrimination and Health Insurance: An Urgent Need for Reform." <i>Science</i> 270 (October 20, 1995): 391-393.</p> <p>Hughes, Virginia. "Mercury Rising." <i>Nature Medicine</i> 13 (8). 2007: 896 - 897.</p> <p>Pinker, Steven. "My Genome, My Self." <i>The New York Times</i>, January 7, 2009.</p> <p>Singer, Peter, and Helga Kuhse. "The Future of Baby Doe." <i>The New York Review of Books</i> 31, no. 3 (1984): 17-22.</p> <p>Wolpe, Paul Root. 2010. TED: It's Time to Question Bio-Engineering.</p> <p><b>Due: Online Discussion Prompt #1</b></p>
9/19	<p><b>HUMAN HEALTH</b></p> <p><b>Group 1</b> - Medical interventions throughout the human lifecycle? Lifesaving or quality of life diminishing?</p> <p><b>Group 2</b> – Organ replacement: creation, location and global trade?</p>
9/20-9/25 Online	<p>In preparation for Human Mobility read:</p> <p>Nave, Kathryn. "In pictures: Building the World's Largest Container Ship." <i>Wired</i>. (September 16, 2014).</p> <p>Tovey, Alvin. "Concorde Mark 2: Airbus Files Plans for New Supersonic Jet." <i>The Telegraph</i> (August 6, 2015)</p> <p>Upbin, Bruce. "Hyperloop is Real: Meet the Startups Selling Supersonic Travel." <i>Forbes</i> (March 15, 2015).</p> <p><b>Due: Online Discussion Prompt #2</b></p>
9/26	<p><b>HUMAN MOBILITY</b></p> <p><b>Group 3</b> - Hyperloop Where it stands, and what it means to California, and Silicon Valley</p> <p><b>Group 4</b> – High speed rail. Where it stands, and what it means to California, and Silicon Valley</p>
9/26-10/2 Online	<p>In preparation for Climate and Energy read:</p> <p>Jimmy Carter Speeches (transcripts and audio)</p> <p>Hubbert, M. King. "Nuclear Energy and the Fossil Fuels." Presented at the American Petroleum Institute conference (March 8, 1956)</p> <p>"Intergovernmental Panel on Climate Change - Technical Summary."</p> <p>Runge, C. Ford, and Benjamin Senauer. "How Biofuels Could Starve the Poor." <i>Foreign Affairs</i> 86 (May/June 2007): 41-54.</p> <p>Wald, Matthew. "The Best Nuclear Option." <i>Technology Review</i> (July 1, 2006)</p> <p>"Anatomy of a Hydraulic Fracking Well" <i>Gasland</i> (Josh Fox, 2010)</p> <p>"A Time-Lapse of Every Nuclear Explosion Since 1945"</p> <p>Miyagawa, S., and J. Dower. <i>Visualizing Cultures</i>.</p> <ul style="list-style-type: none"> <li>• Ground Zero 1945: Pictures by Atomic Bomb Survivors</li> <li>• Ground Zero 1945: A Schoolboy's Story</li> </ul> <p><b>Due: Online Discussion Prompt #3</b></p>
10/3	<b>CLIMATE &amp; ENERGY</b>

Date	Topics, Readings, Assignments, Deadlines
	<p><b>Group 5</b> – Microbial energy production, what is it, where it belongs in the U.S.  <b>Group 6</b> – Nuclear landscapes: here to stay, where to go?</p>
10/3-10/9 Online	<p>In preparation for agriculture read:  Carson, Rachel. 1962. <i>Silent Spring</i> New York: Houghton Mifflin Co. Chapter 3: 13-37.  Rosenberg, Tina. "What the World Needs Now is DDT." <i>New York Times Magazine</i> (April 11, 2004): 38-43.  Gaskell, George, Martin W. Bauer, John Durant, and Nicholas C. Allum. "Worlds Apart? The Reception of Genetically Modified Foods in Europe and the U.S." <i>Science</i> 285 (July 16, 1999): 384-387.  McArdle, Patricia. "Afghanistan's Last Locavores," <i>New York Times</i>. June 19, 2011.  Rhinehart, Rob. "How I Stopped Eating Food," <i>Mostly Harmless</i>, February 13, 2013.</p> <p><b>Due: Online Discussion Prompt #4</b></p>
10/10	<p><b>AGRICULTURE</b>  <b>Group 7</b> –Soylent &amp; Other Food [replacements] for the near future and their impacts to Earth’s carrying capacity  Google My Maps Exercise</p>
10/10-10/16 Online	<p>Conduct your assigned Delmas Park existing building conditions inventory using Google My Maps and your smartphones</p>
10/17	<p><b>Due: Draft Delmas Park report bring printed hardcopy at start of class for peer review</b></p>
10/18-10/10/23 Online	<p>Delmas Park Continued. TBA</p>
10/24-10/30 Online	<p>No in-person class meeting this week. Read <i>Operation Paperclip</i> cover to cover.</p>
10/31	<p><b>SPACE RACE &amp; THE MILITARY-INDUSTRIAL COMPLEX</b>  <b>Due: Audiobook Panel Q&amp;A</b></p>
11/1-11/6 Online	<p>In preparation for Remote Sensing &amp; Telecommunications read:  Asner, Greg. 2013. TED: Ecology from the air  Dawson, Max. "Home Video and the "TV Problem": Cultural Critics and Technological Change." <i>Technology and Culture</i> 48, no. 3 (2007): 524–49.  Humphreys, Lee. "Cellphones in Public: Social Interactions in a Wireless Era." <i>New Media &amp; Society</i> 7 (December 2005): 810-833.  Sheller, Mimi, and John Urry. "Mobile Transformations of 'Public' and 'Private' Life." <i>Theory, Culture &amp; Society</i> 20 (2003): 107-125.  Skybox “The World’s First High-Resolution HD Video of Earth from Space”  Wu, Tim. "If a Time Traveler Saw a Smartphone." <i>The New Yorker</i>, January 10, 2014.</p> <p><b>Due: Online Discussion Prompt #5</b></p>
11/7	<p><b>REMOTE SENSING &amp; TELECOMMUNICATIONS</b>  <b>Group 8</b> – We have no private lives. Who’s listening, watching, reading and recording us in the name of security.</p>

Date	Topics, Readings, Assignments, Deadlines
	<b>Group 9</b> – Satellites connect us so why do we have so many ugly lines and cables. Where are they, their environmental impacts, and what is to be done about it.
11/8-11/13 Online	In preparation for Computer Hardware & Software read: LifeNoggin “What can 3d printers make?” Pfaffenberger, Bryan. "The Social Meaning of the Personal Computer: Or, Why the Personal Computer Revolution Was No Revolution." <i>Anthropological Quarterly</i> 61, no. 1 (1988): 39–47. Alba, Davey. “Reddit is not a free speech free for all” <i>Wired</i> (July 16, 2015) Cohn, Cindy. "MIT in Aaron Swartz Case: Not Neutral, Not Leading, Not Standing Up for Technologists," July 31, 2013. Snowden, Edward. TED: Here’s how we take back the internet” 2014. <b>Due: Attend SJSU GIS Showcase on 11/8. Details TBD.</b>
11/14	<b>COMPUTER HARWARE, SOFTWARE &amp; THE INTERNET</b> <b>Group 10</b> – Artificial Intelligence will it help us or hurt us? <b>Group 11</b> – My world-wide web is shrinking. The danger of click history and social media account cookies
11/15-11/20 Online	Work with your infographic collaborator to complete and print a color poster 11”x17”
11/21 *may be in alternate classroom	<b>Due: Infographic Poster Session</b> (color poster must be printed to be displayed in class) Start <i>Blade Runner</i>
11/22-11/27	HAVE A HAPPY THANKSGIVING – no assignment
11/28 *may be in alternate classroom	Finish <i>Blade Runner</i> Closing discussion on technologies’ role in the dystopic world
11/29-12/4 Online	Work on Use Case decks
12/5	<b>Due: Use Case Presentation competition</b>
Final	<b>Due: Take-home essay exam</b> (submit on Canvas on 12/10)