

GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:

Copy and paste current course information from Class Search/Course Catalog.

College/School	College of Integrative Sciences and Arts	Department/School	Interdisciplinary Humanities and Communication
Prefix: HST	Number: 280	Title: History of Science, Ideas, and Innovation	Units: 3

Course description:

Is this a cross-listed course? **No** If yes, please identify course(s):

Is this a shared course? **No** If so, list all academic units offering this course:

Note- For courses that are crosslisted and/or shared, a letter of support from the chair/director of each department that offers the course is required for each designation requested. By submitting this letter of support, the chair/director agrees to ensure that all faculty teaching the course are aware of the General Studies designation(s) and will teach the course in a manner that meets the criteria for each approved designation.

Is this a permanent-numbered course with topics? **Yes**

If yes, all topics under this permanent-numbered course must be taught in a manner that meets the criteria for the approved designation(s). It is the responsibility of the chair/director to ensure that all faculty teaching the course are aware of the General Studies designation(s) and adhere to the above guidelines.

Chair/Director Initials

Am (Required)

Requested designation: Social-Behavioral Sciences-SB

Mandatory Review: Yes

Note- a separate proposal is required for each designation.

Eligibility: Permanent numbered courses **must** have completed the university's review and approval process. For the rules governing approval of omnibus courses, contact Phyllis.Lucie@asu.edu.

Submission deadlines dates are as follow:

For Fall 2018 Effective Date: October 1, 2017

For Spring 2019 Effective Date: March 10, 2018

Area(s) proposed course will serve:

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

Checklists for general studies designations:

Complete and attach the appropriate checklist

- Literacy and Critical Inquiry core courses (L)
- Mathematics core courses (MA)
- Computer/statistics/quantitative applications core courses (CS)
- Humanities, Arts and Design core courses (HU)
- Social-Behavioral Sciences core courses (SB)
- Natural Sciences core courses (SQ/SG)
- Cultural Diversity in the United States courses (C)
- Global Awareness courses (G)
- Historical Awareness courses (H)

A complete proposal should include:

- ☒ Signed course proposal cover form
- ☒ Criteria checklist for General Studies designation being requested
- ☒ Course catalog description
- ☒ Sample syllabus for the course
- ☒ Copy of table of contents from the textbook and list of required readings/books

It is respectfully requested that proposals are submitted electronically with all files compiled into one PDF.

Contact information:

Name David Burel E-mail DBUREL@ASU.EDU Phone 480-454-0539

Department Chair/Director approval: (Required)

Chair/Director name (Typed): Andrew Mara Date: 30 SEP 2019

Chair/Director (Signature): [Signature]

Arizona State University Criteria Checklist for
SOCIAL-BEHAVIORAL SCIENCES [SB]

Rationale and Objectives

Social-behavioral sciences use distinctive scientific methods of inquiry and generate empirical knowledge about human behavior, within society and across cultural groups. Courses in this area address the challenge of understanding the diverse natures of individuals and cultural groups who live together in a complex and evolving world.

In both private and public sectors, people rely on social scientific findings to consider and assess the social consequences of both large-scale and group economic, technological, scientific, political, ecological and cultural change. Social scientists' observations about human interactions with the broader society and their unique perspectives on human events make an important contribution to civic dialogue.

Courses proposed for a General Studies designation in the Social-Behavioral Sciences area must demonstrate emphases on: (1) social scientific theories, perspectives and principles, (2) the use of social-behavioral methods to acquire knowledge about cultural or social events and processes, and (3) the impact of social scientific understanding on the world.

Revised April 2014

Proposer: Please complete the following section and attach appropriate documentation.

ASU--[SB] CRITERIA			
A SOCIAL-BEHAVIORAL SCIENCES [SB] course should meet all of the following criteria. If not, a rationale for exclusion should be provided.			
YES	NO		Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Course is designed to advance basic understanding and knowledge about human interaction.	See Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Course content emphasizes the study of social behavior such as that found in: <div> <ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY </div>	See Syllabus & Book Table of Contents
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Course emphasizes: a. the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological). OR b. the distinct methods of inquiry of the social and behavioral sciences (e.g., ethnography, historical analysis).	See Syllabus & Book Table of Contents
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Course illustrates use of social and behavioral science perspectives and data.	See Syllabus & Book Table of Contents
		THE FOLLOWING TYPES OF COURSES ARE EXCLUDED FROM THE [SB] AREA EVEN THOUGH THEY MIGHT GIVE SOME CONSIDERATION TO SOCIAL AND BEHAVIORAL SCIENCE CONCERNS: <ul style="list-style-type: none"> • Courses with primarily arts, humanities, literary or philosophical content. • Courses with primarily natural or physical science content. • Courses with predominantly applied orientation for professional skills or training purposes. • Courses emphasizing primarily oral, quantitative, or written skills. 	

Course Prefix	Number	Title	General Studies Designation
HST	280	The History of Science, Ideas, and Innovation	SB

Explain in detail which student activities correspond to the **specific** designation criteria.
Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
Criterion 1	This course advances student understanding and knowledge of human interaction through study of the social institutions of science and technology and the social elements of technological change	Please view notations in syllabus on SLOs, assignments, course readings, and module schedule.
Criterion 2	This course emphasizes the study of social behavior through historical analysis	Please view notations in syllabus on SLOs, assignments, course readings, and module schedule.
Criterion 3b	This course emphasizes the distinct methods of inquiry of social and behavioral science through its emphasis on historical analysis employs the use of interdisciplinary tools to understand past human relationships in societies and their relationships with technology and science.	Please view notations in syllabus on SLOs, assignments, course readings, and module schedule.
Criterion 4	This course illustrates the use of social and behavioral science perspectives and data through its readings, discussions, writing assignments, and approach to studying the past.	Please view notations in syllabus on SLOs, assignments, course readings, and module schedule.

HST 280 - History of Science, Ideas and Innovation

Course Description

Fast-paced introduction to the intertwined histories of science, ideas and technological innovation, as they shape the globe from the ancients to the present.

Offering School/Colleges Pre-requisite(s)

College of Integrative Sciences and Arts

Prerequisite(s): ENG 102, 105, or 108 with C or better

Spring 2020

Number of Units: 3

Allow Multiple Enrollments: No

General Studies: G & H

Repeatable for credit: No

Primary course component: Lecture

The Arizona State University faculty is at the forefront nationally in advancing research and discovery. They inspire new ways of thinking, innovating and solving problems socially, culturally and economically in our region and in the international community.

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HST-280: History of Science, Ideas, and Innovation*

Instructor: Dr. David Burel
Email: DBurel@asu.edu
Course Time: Online

Office Hours: MWF 9:30-11:00
Office Room: SANCA 251B - Polytech
Course Room: Online

Course Description:

Fast-paced introduction to the intertwined histories of science, ideas and technological innovation, as they shape the globe from the ancients to the present.

Course Overview:

This class equips students with a framework for understanding the history of technology and science that will benefit them in many interdisciplinary endeavors from engineering & science to historical inquiry. Students will experience many of the highlights and key moments in this history to illustrate the role of science and technology in human civilizations. This course considers how human societies have regarded the pursuit and transmission of knowledge throughout history.

Student Learning Outcomes:

By the end of the course, students will be able to:

- Describe the global History of Science and Technology from pre-history to the present
- Study past global cultures and how humans' interactions with science and technology have impacted modern global cultures
- Analyze research which focuses on the effects of scientific, engineering, and technical knowledge on human interactions affecting societies
- Understand how human ideas about knowledge have formed and changed over time
- Recognize how different scientific and engineering cultures are developed across the world
- Research and communicate, through various forms (written, presentation, and group discussion/work) key social elements of the complex process by which scientific ideas are transmitted to society
- Demonstrate research skills needed to identify key issues and select appropriate sources for use in course assignments
- Present individual student research through written work, discussion, and collaborative projects.

Commented [DB1]: Criteria 1 & 2

Commented [DB2]: This course SLO connects to the SB guideline's emphasis on studying human interaction. Students will be presented with theories and ideas related to social scientific inquiry into science and technology. For example, students will be exposed to Kuhn's *The Structure of Scientific Revolutions* and theories related to the Social Constructions of Technology.
Criteria 3b & 4

Commented [DB3]: Science must be understood through its relationship with human societies, institutions, and through interactions between individuals. This course will advance students' knowledge on a wide range of human interactions.
Criterion 2

Commented [DB4]: Students will work collectively to compile a collection of moments and approaches to studying the histories of science and technology including social scientific approaches to studying the past. This will be applied most thoroughly within the website project.
Criterion 4

Course Assessment and Grading:

All grades will be entered into Canvas gradebook. Canvas will automatically weight the final grade based on the percentage values below. Discussions will be typically graded out of 10 points each. Tests and other written work will be graded out of 100 points. Please consult your instructor during the course to get an accurate assessment of your current grade in context.

Assignment Weighting:

Weekly Discussion	15%
Tests	25%
Review and Report Article Discussion Assignments	30%
Moments and Movements Website Project	30%

* Enrolling in this class means that you have read, understood, and accepted the policies described in this document. In the event of a disagreement in interpreting a course policy, the instructor's interpretation is paramount and binding. You have the right to withdraw if you do not accept these policies.

*** This is a dynamic syllabus and subject to change ***

Grading Scale:

A+	97%+
A	<97-94%
A-	<94-90%
B+	< 90-87%
B	<87-84%
B-	<84-80%
C+	<80-77
C	<77-70%
D	<70-60%
E	<60-0%

Weekly Discussion:

This course is an online course with most of the regular activity taking place on Canvas. Students must complete each weekly module and all assigned components of the module each week. Every week will have assigned readings in course texts and/or articles. Every week will also feature a discussion posting. Students must first post a persona reaction or reflection on each week's content (including readings and recorded lecture segments). Each student then must propose at least one question to the weekly discussion board. Finally, students must respond to at least two other questions and any follow questions from the instructor. [More information in Canvas on discussions]. Some weeks may have other types of assignments such as quizzes, which must be completed by the date specified in Canvas.

Commented [DB5]: Discussion postings offer a wide-range of responses. Many discussions focus on how different institutions of knowledge shape human approaches to organizing knowledge. These institutions are fundamentally shaped by the human relationships and expectations. Criteria 1 & 2

Review and Report Article Discussion Assignments:

To supplement the wide-ranging survey nature of the course, students will be challenged to select three articles to read in detail. These articles will be selected in consultation with the instructor and should be found in an ASU library database (JSTOR, Project Muse, etc.). Students will first gain approval for a history of science or technology article or from a relevant discipline such as sociology, anthropology, philosophy, or political science. Then the student will read the article. The student will then write an extended post (roughly 750 words) that both reviews the articles merits as well as reports the key takeaway message. Students will receive feedback from the instructor as well as the other students in the class. These readings and discussions may contribute to the class website project.

Commented [DB6]: Students will individually highlight a wide range of scholarship related to studying science and technology in the past. These article readings will collectively aid the increased reach of the course by bringing in perspectives outside the general assigned readings. This aspect of the course will widely survey many aspects of social and behavioral science perspective. Criteria 3b & 4

Moments and Movements Website Project:

Students will each contribute to a class website synthesizing the key moments and movements in the History of Science, Ideas, and Innovation. Each contribution must reflect each student's takeaway lesson(s) learned throughout the course, and these lessons should reflect wider themes of the course. The website as a whole should call on sources used throughout the course in supporting their ideas as well as presenting and synthesizing knowledge gained through interactions in class discussions. The website, once completed by the class, should reflect the understanding of what interdisciplinary tools and methods scholars have developed to study of the History of Science, Ideas, and Innovation. Additional guidelines and details to be provided on a separate handout with organizational roles to be assigned by the instructor.

Commented [DB7]: Students are encouraged to go beyond simply restating what they learned about the history of science and technology in their contributions. They need to present their own interpretation of the moment or movement. To do so, students will use historical analysis and the appropriate tools, theory, and approaches they experienced in the course to frame this contribution. Criteria 2, 3b, & 4

Canvas Tests:

Four tests will be taken on Canvas via the quiz interface. It will feature multiple choice and short answer responses. **Students may use their own personal notes during the exam, but may not work together, use internet sources, consult non-course books/readings or any other materials.** Although online, the exam will be taken expressly during the scheduled Canvas time(s) and will close automatically at the end of allotted time. **All plagiarism and academic dishonesty rules apply to the exam. Exams are an individual effort and any collaboration will be punished as academic dishonesty.**

Absences, Make-Ups, & Late Work:

It is the student's sole responsibility to provide valid excuses for class absences or missed assignments. Medical notes, university-sponsored activities, or other official excuses will be accepted at the instructor's discretion. **All excuses must be turned in within one week of returning to class.** All excuses must be turned in for the instructor to keep as either an original or turned in as a legible photocopy. Students may also choose to email their excuse as a legible pdf or jpeg file, but it will not be counted as received until a student receives an email acknowledgment. It is the student's responsibility to follow up with getting absences excused.

Any missed assignment that can be made up must be done so within one week of returning to class. Make-ups may take a different form and/or include different questions than the one originally completed by the rest of the class. If a student misses the final exam with a verifiable excuse described above the student may be given an incomplete for the course at the instructor's discretion. **In general, I will accept a wider range of excuses for missing class if you come speak to me well in advance of the schedule conflict.** I will not be able to provide the student with lecture notes for classes that you have missed unless you have special accommodations through the University.

Late work is not accepted for this class unless related to an excusable absence of significant duration. All late work will be graded as a zero in the gradebook. If during the course of the semester students have a conflict that could disrupt the submission of a paper, the student should email the professor as soon as possible to see if an accommodation is appropriate.

Academic Honesty:

Academic honesty violations are very serious and will be dealt with in accordance with the Academic Honesty Code. Specifically, violations (cheating) of academic honesty will be reported to the Academic Honesty Committee. These violations include, but are not limited to, the following: copying from others' exams, otherwise giving or receiving aid during an exam or quiz, obtaining copies of exams, using such copies in the exam, using electronic or other aids during an exam, taking an exam for another student, or any other means of deception. For further information, please read the Student Academic Integrity policy at <https://provost.asu.edu/academic-integrity>.

In-Class Electronic Devices & Behavior Policy:

Computers and other electronic devices have fundamentally changed today's classrooms. Many people prefer taking notes on an electronic device. For this reason, I will allow electronic devices in class to be used for note-taking purposes. I am also aware of the persistent temptation to engage in non-course related activities such as Facebook, Twitter, surfing the web, watching video content, and shopping, etc. I ask you to avoid doing these activities during class time. Studies have shown

that these electronic distractions can decrease *both* your performance in a course as well as that of the students around you. Although it should go without saying, it is also not acceptable to have extended discussions with your classmates, study for another class, or any other activity that is not related our course during class time. **If your behavior/activities are proving to be a distraction or contrary to these policies, you will be asked to stop. Continuing this behavior will result in losing attendance points and/or being prohibited from using electronic devices in class.**

Assigned Readings:

The following books must be acquired by the students to successfully complete the course. Additional readings may be posted on Canvas within the weekly modules. See Canvas to weekly reading assignment details.

Thomas Kuhn, *The Structure of Scientific Revolutions* ISBN: 978-0226458120

James E. McClellan & Harold Dorn, *Science & Technology in World History* ISBN: 9781421417752

Ian McNeely, *Reinventing Knowledge* ISBN: 9780393337716

Commented [DB8]: Kuhn's work is widely well-regarded in the History of Science as well as social behavioral fields such as Science and Technology Studies.
Criterion 4

Commented [DB9]: This book is fundamentally about human institutions of knowledge and how those human relationships around those institutions influenced the creation and propagation of knowledge.
Criteria 1 & 2

Module Schedule:

This course meets online via Canvas. Weekly modules (as outlined below) will be posted with all reading assignments, lecture segments, and other activities. Please view these modules on Canvas weekly to interact and complete assignments and discussions.

Module 1: Welcome & Course Themes

Welcome to the course modules asks students to share what topics they find most interesting in the History of Science, Ideas, and Innovation. It also asks students to consider the complex assumptions modern people have about the assumed relationship between science, technology, and progress.

Read: "Introduction" in *Science and Technology in World History*

Discussions: "Introduce Yourself" and "Image Discussion"

Module 2: Technology and Knowledge before Science

This module looks at the prehistory of science and the dawn of human's relationship with technology. Students will consider anthropological and archeological evidence for humanities development from near human ancestors through the creation of complex stone tools to the beginnings of agriculture. Students are challenged to consider if early human's knowledge of the world constitutes scientific knowledge.

Read: "Humankind Emerges" and "The Reign of the Farmer" in *Science and Technology in World History*

"Pangaea Revisited, the Neolithic Reconsidered" excerpt PDF from *Ecological Imperialism*

Discussions: "Comparing Views on the Neolithic" & "Knowledge vs Science"

Module 3: Science and Technology in Riverine Civilizations

This module considers the first complex societies on early centered on major river valleys. It first considers the considerable technological innovation in irrigation and government that allowed the creation of these civilizations. Students also can study the Babylonian model for scientific inquiry as it developed in Mesopotamia.

Read: "Pharaohs and Engineers" in *Science and Technology in World History*

Discussion: "Where would you live?," "Reacting to the Story of India," and "The Hydraulic Thesis"

Module 4: Greek Philosophy and the Origins of "Western" Thought

The module studies the origins of Greek thought and its influence in the Mediterranean and the West Asian world. The development of individualistic and theoretical methods of pursuing scientific knowledge will be considered.

Read: "Greeks Bearing Gifts" in *Science and Technology in World History*

Discussion: "Babylonian vs Greek Model," "Hellenic Greeks," and "Plato's Timaeus on Animals"

Module 5: Technology and Knowledge in the Hellenistic and Roman World

This module investigates how the empire of Alexander the Great and the subsequent Hellenistic Period brought about considerable changes to scientific institutions. It will study the Library at Alexandria as a substantial development in the history of science and ideas. This unit will consider the vast technological contributions the Roman Empire made in innovating to create its vast empire.

Read: "Alexandria and After" in *Science and Technology in World History*

"The Library" in *Reinventing Knowledge*

Discussions: "The Library at Alexandria" and "Alexandria, Rome, and Loss"

Commented [DB10]: The module comments below highlight some key interactions between this course's emphasis on historical inquiry and the connects to social science scholarship.

Note: The examples highlighted are not exhaustive, but readily sharable examples of how this course promotes historical analysis related to the SB criteria.

Commented [DB11]: This first module presents information from anthropological and archaeological research into the prehistory of humans and their relationship with tools. This module would not be possible based on traditional historical sources alone.
Criterion 4

Commented [DB12]: These discussions challenge students to read and relate different views on the agricultural revolutions to human societies and interactions. They will reflect on major social changes brought about by food production, population density, social stratification and gender relations.
Criterion 2

Commented [DB13]: This discussion has students reflect on the distinct trade-offs of living within what scholars define as a "civilization" versus other smaller scale social organization. Students will be challenged to think about how human relationships (in particular power relationships between ruler and ruled) are altered by the creation of "civilization."
Criterion 1

Commented [DB14]: These discussions and this module in general consider the institutions of knowledge in the ancient Mediterranean world. Students are challenge to consider how these institutions came together as well as the negative outcomes related to societal breakdowns.
Criterion 2

Module 6: Applied & Theoretical Knowledge in Global Cultures I (West Asia & China)

This module investigates the highly developed civilizations and intellectual achievements of West Asia in the Islamic World and China. It examines how these traditions developed alternative methods for organizing and valuing knowledge both technical and scientific.

Read: “The Enduring East” & “The Middle Kingdom” in *Science and Technology in World History*

Discussion: “Transmission of Ideas,” and “The Mongols & Innovation”

Module 7: Applied & Theoretical Knowledge in Global Cultures II (India & the Americas)

This week studies both the intellectual traditions of South Asian culture on the Indian subcontinent and the development of technologies and scientific knowledge in the Americas. Special attention will be given to contextualizing the significant technical achievements of pre-Columbian civilizations in the Americas. It finally looks at early attempts by Europeans to establish overseas colonies.

Read: “Indus, Ganges, and Beyond”

“The New World” in *Science and Technology in World History*

Discussion: “Eastern Science and Technology” and “Technology and Science in the Americas”

Module 8: From Stirrups to Solar Systems

This module first considers the technologies of feudalism. It also examines the role of monasteries in preserving knowledge in postclassical Western Europe. It also studies how the received geocentric models of the universe challenged by scholars proposing heliocentric ideas.

Read: “Plows, Stirrups, Guns, and Plagues” & “Copernicus Incites A Revolution” in *Science and Technology in World History*

“The Monastery” in *Reinventing Knowledge*

“Introduction: A Role for History” in *The Structure of Scientific Revolutions*

Discussion: “The Monastery” and “Debate on Stirrups”

Module 9: Of European Empires & a Republic of Letters

This module pairs a discussion of European overseas expansion and its impact across the globe. It also considers how the Columbian exchange allowed for major innovation to agricultural that brought new lands and crops under cultivation around the world. It also considers the Republic of Letters as another major institutional development in the spread of knowledge and ideas in Europe.

Read: “The Crime and Punishment of Galileo Galilei” in *Science and Technology in World History*

“The University” & “The Republic of Letters” in *Reinventing Knowledge*

Chapters 1-9 (though page 91) in *The Structure of Scientific Revolutions*

Discussion: “The University” “Institutions of a Revolution” and “**Newton & Religion**”

Module 10: The Scientific Revolution in World Context

This module study at developments in the history of Science before and after Isaac Newton’s work in mathematics and physics. It also looks at how European ideas were received around the World. It also reflects on why the European scientific tradition became dominant in this era. It also consider the origins of academic disciplines. Students are encouraged to consider in what ways the scientific revolution and academic disciplines continue to shape the modern world.

Read: “God said, ‘Let Newton be!’” in *Science and Technology in World History*

Commented [DB15]: This discussion considers the interaction of Newton’s religious and scientific life. The associated reading posted to the module to supplement this discussion is “Isaac Newton, Heretic: The Strategies of a Nicodemite” This article offered up a wide discussion of human relationships because it shows how Newton had to navigate a complex web of social expectations, fear of religious oppression, and scientific communities. He risked the merits of his scientific work by faithfully perusing his religious beliefs that were considered heretical. Students are encouraged to discuss the relationship of religion, society, and science beyond the Newton example.
Criterion 2

“The Disciplines” in *Reinventing Knowledge*

Chapters 10-13 in *The Structure of Scientific Revolutions*

Discussion: “Disciplines and Specialization,” “The Discovery of Neptune,” “On Revolutions” and “Scientific Revolution in Context”

Module 11: The Birth of the Industrial World

The Industrial Revolution fundamentally changed the modern world, but why did it first occur in Britain? What drove this period of intense innovation that broke longstanding limits to productivity? These questions and more are the focus of this module.

Read: “Textiles, Timber, Coal, and Steam” in *Science and Technology in World History*

Discussion: “The Industrial Revolution in One Case Study,” “The Lunar Society,” “Innovation and Economics,” & “Debating the Great Divergence”

Module 12: Discovering and Debating the Origins of Life

Charles Darwin’s book, *On the Origins of Species*, challenged many traditional explanations of the natural world, but his book was neither the first nor the last to make similar claims. This module will study the controversy around the work of Darwin, but also contextualize it within its own time.

Read: “Legacies of Revolution: From Newton to Einstein” & “Life Itself” in *Science and Technology in World History*

Discussion: “*The Vestiges and Scientific Authority*”

Module 13: Technological Innovation & Social Change

This module looks at how technological innovations influenced society and everyday people’s lives. The electrification of households, the adoption of the automobile, and aviation technology provide great case studies in examining the relationship between technology and social change.

Read: “Toolmakers Take Command” in *Science and Technology in World History* & “The Laboratory” in *Reinventing Knowledge*

Discussion: “Institutions of Knowledge,” “Industrial Civilization and Technological Systems,”

Module 14: The Modern Industrial World in Global Context

This module studies the modern industrial technology around the world. It emphasizes how technology is indigenized to local societies and cultures across the globe. There are remarkable similarities and dissimilarities in how/which technologies are used by different peoples. This week will also consider major modern scientific achievements that have reordered how humans look at the universe.

Read: “The Bomb, the Internet, and the Genome” & “The New Aristotelians” in *Science and Technology in World History*

Discussion: “20th Century Science,” “Creating the Nuclear Age,” & “Soviet Space”

Module 15: Futurism, High-Modernism, and Big Science in Contemporary Culture

This module considers the origins of futurism in the past and the present role of futurist ideas related to science and technology in modern global culture. It also suggests discussion on whether or not global scientific culture has become homogeneous over time or if separate cultures of science exist in the world like they had in the past. It will also consider the history and continued appeal of high modernist ideology.

“Under Today’s Pharaohs” in *Science and Technology in World History*

Discussion: “High-Modernism & Tragedy,” “Modern Applied Science,” and “Internationalism vs Nationalism in Science and Technology”

Commented [DB16]: Scholarship surrounding *The Great Divergence* has enlivened debate about historical comparisons between Europe and China while involving a wide range of scholars from economic history to social science practitioners. Much of the debate centers on debating the relative differences between European and East Asian institutions including business structures, political ideology, and social systems. Readings and lectures will introduce this debate to students as they discuss it here.
Criterion 2 & 3b.

Commented [DB17]: Content on the decision to use the atomic bomb will rely in part on the scholarship of historian and political economist Gar Alperovitz in *The Decision to Use the Atomic Bomb*. Emphasis on institutional factors will be considered in the decision making surrounding the use of the bomb in World War II
Criterion 2

Commented [DB18]: A great example of the use of Social Science is the engagement with the work of James C. Scott from *Seeing Like a State*. His work will inform the discussion of “high-modernism” and an excerpt will be read in this module.
Criteria 3b & 4.

Communication:

As per university regulations, asu.edu domain email is the official student email system for Arizona State University. To get in touch with individual students or the whole class outside of class hours, I will use this medium of communication. **It is your responsibility to check your school email on a regular basis to make sure that you receive class information I send via email.** Because of the threats of viruses, however, I will not open messages you send me through other accounts. **Do not use Canvas messenger (or any other non-email messenger) to contact me.** In addition, it may take up to forty-eight hours to receive a reply under some circumstances. I may also ask a student to see me during office hours if his/her question is too complicated to be addressed via email. For basic course information, please check the syllabus first for this information rather than directly emailing me. For help with your email go to: MyASU > Service > Live Chat OR New Ticket.

Finally, I do not discuss students' grades in email messages or over the telephone due to laws concerning confidentiality of students' records. **I also cannot discuss grades with parents and guardians (or other relatives/friends) as per the guidelines of the Family Education Rights and Privacy Act (FERPA).** If parents/guardians contact me, I will direct them to the pertinent passages of the ASU's FERPA policies.

Canvas:

To help you succeed in this class, I will post most course-related materials on Canvas. These materials include the syllabus, slides, and assignment scores. Additionally, you must take both exams through Canvas. If you have any issues accessing Canvas please contact ASU LMS or come see me at your earliest possible convenience.

Student Responsibility:

Finally, a word about the division of labor in our "joint venture": I will do the best I can to teach you, but you are expected to take your responsibility seriously. I will try to explain the material clearly. I will be available to help you when you need it. On the other hand, your responsibility includes, among other things, arriving on time, focusing on understanding what I am discussing while taking well-organized notes, asking questions if you fail to understand a point in my lecture, finishing reading assignments on time, and studying efficiently and effectively. I assume you understand what your responsibilities are and will take them seriously.

Challenging Content & Trigger Warnings:

History courses by their very nature deal with serious issues of the human past that may disturb, disquiet, or offend some students. It is not the intention of the class generally to disturb or offend. However, remembering and discussing the past (even the difficult parts) is the only effective way to study history. In line with university policies on this subject, I will attempt to provide warnings when introducing this kind of material; yet if I forget to do so, or if something else (in my materials or posts from fellow students) seems troubling or offensive, please by email or speak to me directly.

University Policy on Establishing a Safe Classroom Environment:

Learning takes place best when a safe environment is established in the classroom. In accordance with [SSM 104-02 of the Student Services Manual](#), students enrolled in this course have a responsibility to support an environment that nurtures individual and group differences and

encourages engaged, honest discussions. The success of the course rests on your ability to create a safe environment where everyone feels comfortable to share and explore ideas. We must also be willing to take risks and ask critical questions. Doing so will effectively contribute to our own and others intellectual and personal growth and development. We welcome disagreements in the spirit of critical academic exchange, but please remember to be respectful of others' viewpoints, whether you agree with them or not.

Prohibition of Commercial Notetaking Services

In accordance with [ACD 304-06 Commercial Note Taking Services](#), written permission must be secured from the official instructor of the class in order to sell the instructor's communication in the form of notes. Notes must have the note taker's name as well as the instructor's name, the course number, and the date.

Students with Disabilities

If you need academic accommodations or special consideration of any kind to get the most out of this class, please let me know at the beginning of the course. If you have a disability and need a reasonable accommodation for equal access to education at ASU, please call Disability Resources for Students.

The site can be found here: <https://eoss.asu.edu/drc>

Downtown Phoenix Campus University Center building, Suite 160 Phone: 602.496.4321 E-mail: DRCDowntown@asu.edu	Tempe Campus Matthews Center building, 1st floor Phone: 480.965.1234 E-mail: DRCTempe@asu.edu
Polytechnic Campus Sutton Hall - Suite 240 Phone: 480.727.1039 E-mail: DRCPoly@asu.edu	West Campus University Center Building, Room 130 Phone: 602.543.8145 E-mail: DRCWest@asu.edu

Mental Health

As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These emotional health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. ASU Counseling Services provides counseling and crisis services for students who are experiencing a mental health concern. Any student may call or walk-in to any ASU counseling center for a same day or future appointment to discuss any personal concern. Here is the Web site: <https://eoss.asu.edu/counseling>. After office hours and 24/7 ASU's dedicated crisis line is available for crisis consultation by calling 480-921-1006.

Student Code of Conduct

Students are required to adhere to the behavior standards listed in the Arizona Board of Regents Policy Manual Chapter V –Campus and Student Affairs: Code of Conduct located online at <http://students.asu.edu/srr/code> and the ACD 125: Computer, Internet, and Electronic Communications available at <http://asu.edu/aad/manuals/acd/acd125.html>.

Students are entitled to receive instruction free from interference by other members of the class. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 <http://www.asu.edu/aad/manuals/ssm/ssm201-10.html>. An instructor may withdraw a student from a course with a mark of "W" or "E" when the student's behavior disrupts the educational process. Disruptive classroom behavior for this purpose is defined by the instructor.

Harassment Prohibited

ASU policy prohibits harassment on the basis of race, sex, gender identity, age, religion, national origin, disability, sexual orientation, Vietnam era veteran status, and other protected veteran status. Violations of this policy may result in disciplinary action, including termination of employees or expulsion of students. Contact the professor if you are concerned about online harassment of any kind, and he/she will put you in contact with the Dean of Students office.

Title IX

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

"As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish discuss any concerns confidentially and privately."

Statement on Inclusion

Arizona State University is deeply committed to positioning itself as one of the great new universities by seeking to build excellence, enhance access and have an impact on our community, state, nation and the world. To do that requires our faculty and staff to reflect the intellectual, ethnic and cultural diversity of our nation and world so that our students learn from the broadest perspectives, and we engage in the advancement of knowledge with the most inclusive understanding possible of the issues we are addressing through our scholarly activities. We recognize that race and gender historically have been markers of diversity in institutions of higher education. However, at ASU, we believe that diversity includes additional categories such as socioeconomic background, religion, sexual orientation, gender identity, age, disability, veteran status, nationality and intellectual perspective.

Campus Resources

As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability resources, career and internship help and many opportunities to get involved in student clubs and organizations.

- Tutoring: <https://students.asu.edu/academic-success>

- Counseling Services: <http://students.asu.edu/counseling>
- Financial Aid: <http://students.asu.edu/financialaid>
- Disability Resource Center: <http://www.asu.edu/studentaffairs/ed/drc/>
- Major/Career Exploration: <http://uc.asu.edu/majorexploration/assessment>
- Career Services: <http://students.asu.edu/career>
- Student Organizations: <http://www.asu.edu/studentaffairs/mu/clubs/>
- ASU Writing Centers: <https://tutoring.asu.edu/writing-centers>
- ASU Police Department: <https://cfo.asu.edu/police>
- International Student Resources: <https://students.asu.edu/international/support/academic>

Syllabus Disclaimer

Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary. The instructor reserves the right to make changes to the syllabus as deemed necessary. Students will be notified in a timely manner of any syllabus changes via email or in the Announcements section on Canvas.

Handout for Moments and Movements in the History of Science and Technology Website

Overview:

This class will collaborate in creating a website to showcase key moments and movements in the history of science and technology. Students will each be in charge of making one contribution page to the class website. This contributed page will feature an attractive and informative presentation about the history of a particular event, person, scientific or technical idea in human history. Student's will also be expected to show their analytical skills by interpreting their topics using theories, ideas, and concepts present in class and discovered through the "Review and Report" assignments. This assignment allows the development of research and writing skills within a modern medium relevant to contemporary culture.

Instructions:

1. Students will first identify an appropriate topic for their contribution. These topics should be related to the course content with a clear significance (not simply trivia). Students also should avoid overly large topics such as "The Scientific Revolution" or "Greek Natural Philosophy." Instead, students should pick a topic more narrowly defined like "Matteo Ricci in China" or "The Institutional Momentum of the Manhattan Project."
 - a. Students should submit a brief 200-word description of the topic along with a statement of interest to Canvas to gain approval.
 - b. Students submit for topic approval by XX/XX.
2. Students will identify at least five primary and secondary sources for the paper. Those sources should be organized into a Chicago Manual of Style bibliography with annotations.
 - a. Students should use Chicago Manual of Style bibliographic citations. See https://owl.purdue.edu/owl/research_and_citation/chicago_manual_17th_edition/cmos_formatting_and_style_guide/chicago_manual_of_style_17th_edition.html for more on this format.
 - b. The annotated should demonstrate the feasibility of the project.
 - c. This annotated bibliography is due on XX/XX.
3. Students will be invited to the class webpage by XX/XX. Students will need to make their own page within the website as a placeholder for future content.
 - a. Students should view this brief introductory video [Link]
 - b. Students should not include a name on their website for reasons of preserving privacy.
 - c. The page will remain unpublished until the peer review stage.
 - d. Students should ONLY edit their own contributions and avoid any work on other student's contributions.
 - e. Students may not make any changes to the global template.
4. Students will complete a draft of the website content (written content) and post it to their site for peer review by XX/XX. The peer review groups will be assigned by the instructor. Peer reviewers should provide feedback to reviewees based on content as well as copyedits. CC Dr. Burel on all peer reviews.
 - a. After receiving peer reviews, students should amend their page and make any necessary corrections.
5. Students will complete their contributions by XX/XX.
 - a. The class page will remain published through the finals week but maybe unpublished afterward. Students should archive any material or writing they want to keep individually.

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