

# UNIVERSITY OF GUELPH

## HIST\*1250 Science and Technology in a Global Context

**Winter 2024**

Department of History

Credit Weight: 0.5

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### 1. Course Description

#### 1.1 Calendar Description

This course is an introduction to the culturally specific ways in which science and technology have developed historically from the ancient period through the twenty-first century. Emphasis will be placed on the patterns in which scientific knowledge and practices have traveled and been constructed across cultures and the interconnected but distinct histories of science and technology.

Restrictions: ASCI\*1000

#### 1.2 Course Description

Science and technology are two of the most powerful cultural forces in human history. This course introduces students to the historical development of science and technology in a global context, from the late ancient period to the late 20th century. Our focus will be on the purposes, patterns, and problems of science and technology, and the ways in which knowledge, practices, and objects have been used to understand, control, and exploit nature. We will also explore how scientific and technological developments are contingent upon diverse social, political, economic, cultural, and environmental contexts, as well as how they circulate within and between societies over time.

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### 2. Instructional Support

## 2.1 Course Instructor

Instructor: [REDACTED]  
Email: [REDACTED]  
Class Time: [REDACTED]  
Location: [REDACTED]  
Office: Mackinnon Building Extension, [REDACTED]  
Office Hours: By appointment

## 2.2 Teaching Assistants

Graduate Teaching Assistant (GTA): [REDACTED]  
Email: [REDACTED]

Graduate Teaching Assistant (GTA): [REDACTED]  
Email: [REDACTED]

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# 3. Learning Resources

## 3.1 Required Textbook

**James E. McClellan III and Harold Dorn, Science and Technology in World History, Third Edition (Johns Hopkins University Press, 2015). (Textbook)**  
Available at the University of Guelph bookstore and the University of Guelph Campus Co-Op. There is also a Kindle Edition.  
Please purchase the **Third Edition**.

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# 4. Learning Outcomes

## 4.1 Course Learning Outcomes

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

1. Appreciate the contributions of science and technology to world history.
2. Recognize that specific sciences and technologies are dependent on their social, cultural, and historical context and cannot be understood outside of them.

3. Recognize the ways in which knowledge and skills have travelled and been constructed across cultures.
4. Engage with the central issues, research approaches, and practices of history as a discipline.
5. Develop skills in critical reading, writing, and thinking.
6. Develop skills in library research and critical evaluation of information.

#### **4.2 B.Eng. Graduate Attribute Learning Outcomes**

If you are taking this course as a part of your requirements for the B.Eng. program, the outcomes above support and are consistent with the following Graduate Attributes (GA) as outlined by the Canadian Engineering Accreditation Board (CEAB).

Graduate Attributes (GA):

GA 7: Communication skills: An ability to communicate complex engineering concepts within the profession and with society at large. Such ability includes reading, writing, speaking and listening, and the ability to comprehend and write effective reports and design documentation, and to give and effectively respond to clear instructions.

GA 9: Impact of engineering on society and the environment: An ability to analyze social and environmental aspects of engineering activities. Such ability includes an understanding of the interactions that engineering has with the economic, social, health, safety, legal, and cultural aspects of society, the uncertainties in the prediction of such interactions; and the concepts of sustainable design and development and environmental stewardship.

## **5. Method of Evaluation:**

### **5.1 Assignment due dates and values**

<b>Assessment</b>	<b>Value</b>	<b>Date Due</b>
<b>Essay Proposal and Annotated Bibliography</b>	20%	February 9, 2024 by 11:59pm

<b>Research Essay</b>	25%	March 22, 2024 by 11:59pm
<b>End of Course Reflection</b>	5%	April 5, 2024 by 11:59pm
<b>Quizzes</b>	20% (Best 6 grades count)	Quiz #1 – Jan 23 Quiz #2 – Jan 30 Quiz #3 – Feb 6 Quiz #4 – Feb 13 Quiz #5 – Mar 5 Quiz #6 – Mar 12 Quiz #7 – Mar 19 Quiz #8 – Mar 26
<b>Final Exam</b>	30%	April 17, 2024 11:30-1:30pm

## 5.2 Assignment Descriptions

### **Essay Proposal and Annotated Bibliography (20%):**

The Essay Proposal and Annotated Bibliography are due February 9, 2024 by 11:59pm. The Proposal should **outline the essay topic** chosen from a list that will be provided in class. It should discuss your starting thesis, the structure of your argument, and research process. The Annotated Bibliography should include **6 (six) scholarly sources (no websites)**, with a short description of the source and its importance to your argument. The Essay Proposal and Annotated Bibliography must be submitted in a **Microsoft Word document**. More details will be announced in class.

### **Research Essay (25%):**

The Research Essay is due March 22, 2024 by 11:59pm. **It must be 1500-2000 words** in length, double spaced, 12pt font, and be based on your Essay Proposal and Annotated Bibliography. The word count does not include the footnotes and bibliography. The Essay must be submitted in a **Microsoft Word document**. The Essay must follow the **Chicago style citation method**. Please consult the Library's HIST 1250 Course Guide. More details will be announced in class.

### **End of Course Reflection (5%):**

The End of Course Reflection is due April 5, 2024 by 11:59pm. It offers students the opportunity to reflect on their learning throughout the course. **It must be 500-**

**600 words** in length, double spaced, 12pt font, and make specific mentions of course materials, discussions, and lectures. The Reflection must be submitted in a **Microsoft Word document**. More details will be announced in class.

#### **Quizzes (20%):**

Quizzes will be done online, through the Quiz tab on CourseLink. **You will be given 8 online multiple-choice quizzes of 10 questions each. Quizzes will test your knowledge and understanding of the previous week's lectures and readings.** You will be given a time limit of 60 minutes to do each quiz, which will go online on Monday afternoons at 5pm. You will have 24 hours to complete the quiz. The **best 6 quizzes** will be used to calculate your final grade. **Because of this built-in flexibility (students have 2 "throwaway" quizzes), academic accommodation will only be granted in exceptional circumstances.**

#### **Final Exam (30%):**

The Final Exam will be **cumulative** and take place **in person** during the April exam period. More details will be announced in class.

### **5.3 Late Assignments**

Assignments must be submitted by their due dates. Students in need of accommodation must contact the professor before the deadline. **Any late assignments that have not received prior accommodation will lose 2% per day (including weekends).** Assignments over 1 week (7 days) late will not be accepted.

### **5.4 Turnitin**

**Turnitin will be used and integrated with the CourseLink Dropbox tool. It will detect possible plagiarism, unauthorized collaboration, or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.** All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

### **5.5 University of Guelph Statement on Artificial Intelligence Systems, ChatGPT, Academic Integrity**

Artificial intelligence (AI) systems are powerful tools that promise to revolutionize research, teaching and learning. In all three areas and in the future of work, there exist creative and forward-thinking opportunities for the use of AI. Many University of Guelph faculty, instructors, staff and students are currently

looking at ethical uses of AI, including research through U of G's [Centre for Advancing Responsible and Ethical Artificial Intelligence \(CARE-AI\)](#).

At the same time, the development of increasingly sophisticated AI systems such as ChatGPT poses potential threats to academic integrity. Unauthorized student use of AI systems undermines student learning, the achievement of learning outcomes and violates the University's academic misconduct policies. The University is committed to ensuring that the use of AI in teaching and learning complies with existing policies and regulations that govern academic and scholarly integrity. We continue to engage the University community, including students, as we work to refine academic integrity policies and their intersection with AI tools. We affirm the following:

1. Students' work must reflect their unique intellectual capacity and demonstrate the application of critical thinking and problem solving. Unauthorized use of AI to complete assessments violates the fundamental intellectual purposes of the University and does not demonstrate student achievement of course learning outcomes.
2. Submission of materials completed by AI, without permission of the instructor, constitutes an offence under the University's academic misconduct policies, either as a form of plagiarism or the use of unauthorized aids.
3. Acceptable use of AI should be determined by the course instructor and may vary across disciplines, programs and types of assessments. In setting out course requirements and assessment criteria, the instructor should specify allowable uses of AI, if any, through the course outline and/or the learning management system (e.g., CourseLink). Clarity about the acceptable use of AI is critical for students and instructors. Students are responsible for appropriately referencing how and to what extent they have used AI in assessments in keeping with University and course requirements.

Instructions about the acceptable use of AI are provided in the assignment details available on CourseLink.

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## 6. Teaching and Learning Activities

### 6.1 Class Preparation

Our class time will be devoted to lectures, class discussions, and occasionally, films. Lectures will complement your readings. Thus, keeping up with assigned readings will be crucial to your success in this course. Although this is a large

class, where possible, we will use class discussions as opportunities to clarify lecture topics and content, and for you to interact with each other. I strongly encourage you to ask questions during lectures.

## 6.2 Course Schedule and Lecture Topics

Date	Topic	Readings
<b>Week 1</b>		
<b>Class 1</b> Jan 8	Introduction & Course Overview	<b>Read:</b> Syllabus
<b>Class 2</b> Jan 10	Importance of History	
<b>Class 3</b> Jan 12	Early Civilizations & Ancient Greece	<b>Read:</b> McLellan & Dorn, Chap. 4
<b>Week 2</b>		
<b>Class 4</b> Jan 15	Ancient Greece & Rome	<b>Read:</b> McLellan & Dorn, Chap. 5
<b>Class 5</b> Jan 17	Learning Support: Library Research Workshop (1)	<b>Read:</b> Alexander J. Field, "Telegraph," in <i>Oxford Encyclopedia of Economic History</i> (2003)  <b>Read/Watch:</b> other resources posted on CourseLink
<b>Class 6</b> Jan 19	Learning Support: Library Research Workshop (2)	
<b>Week 3</b>		

<b>Class 7</b> <b>Jan 22</b>	The Islamic Renaissance  Science and Culture in Song Dynasty China	<b>Quiz #1 due Jan 23</b>  <b>Read:</b> McLellan & Dorn, Chap. 6 & 7
<b>Class 8</b> <b>Jan 24</b>		
<b>Class 9</b> <b>Jan 26</b>		
<b>Week 4</b>		
<b>Class 10</b> <b>Jan 29</b>	The "New" World  The European Renaissance	<b>Quiz #2 due Jan 30</b>  <b>Read:</b> McLellan & Dorn, Chap. 9 & 11
<b>Class 11</b> <b>Jan 31</b>		
<b>Class 12</b> <b>Feb 2</b>		
<b>Week 5</b>		
<b>Class 13</b> <b>Feb 5</b>	A Revolution in Science?  Military Revolution	<b>Quiz #3 due Feb 6</b>  <b>Read:</b> McLellan & Dorn, Chap. 10 & 13  <b>Essay Proposal and Annotated Bibliography, due Feb 9, 2023 by 11:59pm</b>
<b>Class 14</b> <b>Feb 7</b>		
<b>Class 15</b> <b>Feb 9</b>		
<b>Week 6</b>		



<b>Class 16</b> <b>Feb 12</b>	Science and Empire: Commerce, Race, and Exploration	<b>Quiz #4 due Feb 13</b>
<b>Class 17</b> <b>Feb 14</b>		
<b>Class 18</b> <b>Feb 16</b>		
<b>Week 7</b>		
<b>Feb 19-23</b>	Reading Week – No Classes	Enjoy your study break!
<b>Week 8</b>		
<b>Class 19</b> <b>Feb 26</b>	Industrialization, Science, and the State (1)	<b>Read:</b> McLellan & Dorn, Chap. 14 & 15
<b>Class 20</b> <b>Feb 28</b>	Learning Support: Writing Workshop	
<b>Class 21</b> <b>Mar 1</b>	Industrialization, Science, and the State (2)	
<b>Week 9</b>		
<b>Class 22</b> <b>Mar 4</b>	From Darwin to Hitler: Science, Race, and Ideology	<b>Quiz #5 due Mar 5</b>
<b>Class 23</b> <b>Mar 6</b>		

<b>Class 24</b> <b>Mar 8</b>		
<b>Week 10</b>		
<b>Class 25</b> <b>Mar 11</b>	Science and Technology in Total War (2)  Weapons of Mass Destruction	<b>Quiz #6 due Mar 12</b>  <b>Read:</b> McLellan & Dorn, Chap. 19
<b>Class 26</b> <b>Mar 13</b>		
<b>Class 27</b> <b>Mar 15</b>		
<b>Week 11</b>		
<b>Class 28</b> <b>Mar 18</b>	Mass Consumption  Cities, Infrastructure, and Pollution	<b>Quiz #7 due Mar 19</b>  <b>Read:</b> McLellan & Dorn, Chap. 17  <b>Research Essay due</b> <b>March 22, 2023 by</b> <b>11:59pm</b>
<b>Class 29</b> <b>Mar 20</b>		
<b>Class 30</b> <b>Mar 22</b>		
<b>Week 12</b>		
<b>Class 31</b> <b>Mar 25</b>	The Anthropocene and Climate Crisis	<b>Quiz #8 due Mar 26</b>  No readings
<b>Class 32</b> <b>Mar 27</b>	Wrap Up	

<b>Class 33</b> <b>Mar 29</b>	Good Friday – No Class	
<b>Week 13</b>		
<b>Class 34</b> <b>Apr 1</b>	Wrap Up	No readings
<b>Class 35</b> <b>Apr 3</b>	Exam Review	
<b>Class 36</b> <b>Apr 5</b>	No Class	<b>End of Course Reflection due April 5, 2023 by 11:59pm.</b>

## 7. University Statements

### 7.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

### 7.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

### **7.3 Drop Date**

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

### **7.4 Copies of Out-of-class Assignments**

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

### **7.5 Accessibility**

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the

existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website <https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website <https://www.ridgetownc.com/services/accessibilityservices.cfm>

## **7.6 Academic Integrity**

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

### **7.7 Recording of Materials**

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

### **7.8 Resources**

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

### **7.9 Disclaimer**

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

### **7.10 Illness**

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g. final exam or major assignment).

### **7.11 Covid-19 Safety Protocols**

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>

- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.