Proposal to create **CSC 160D1, Information Revolutions**, for Tier One, Traditions/Cultures
(revised after UWGEC’s denial, 5/14/14)

*Approved by COS Assoc. Dean Elliott Cheu, 11/12/14*

## Course Offerings

<table>
<thead>
<tr>
<th>Academic Career:</th>
<th>UGRD</th>
<th>Subject Area:</th>
<th>CSC</th>
<th>Catalog Nbr:</th>
<th>160D1</th>
<th>Academic Organization:</th>
<th>0412</th>
<th>Course Typically Offered:</th>
<th>FALLSPRING</th>
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<tbody>
<tr>
<td>Co-Convened</td>
<td>N</td>
<td>If Yes, Co-Convened with (ID and offer nbr)</td>
<td>0</td>
<td>Co-Convened Subject:</td>
<td></td>
<td>Catalog Nbr:</td>
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## Enrollment Requirements

## Course Requisite Information

<table>
<thead>
<tr>
<th>Requisite Type:</th>
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<tbody>
<tr>
<td>Subject:</td>
<td></td>
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<tr>
<td>Catalog Nbr:</td>
<td></td>
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## Existing Requirement Groups to be added

<table>
<thead>
<tr>
<th>Requirement Group</th>
<th>Long Description</th>
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## New Requirement Group Information

<table>
<thead>
<tr>
<th>Description:</th>
<th>Information Revolutions</th>
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<tbody>
<tr>
<td>Long Course Title:</td>
<td>Information Revolutions</td>
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<tr>
<td>Long Description:</td>
<td>This course explores how information &quot;revolutions&quot; have had social, historical, and cultural impacts on civilization, culminating in the development of computer technology. It is an interdisciplinary survey of history, classics, philosophy, religion, language, cultural anthropology, socio-economics, gender studies, area studies (including non-Western), and art, all within the context of information collection and control.</td>
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<table>
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<tr>
<th>First Term Effective</th>
<th>2151: Spring 2015</th>
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<tbody>
<tr>
<td>Course Type</td>
<td>Permanent</td>
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## Instructors

<table>
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<tr>
<th>Instructor</th>
<th>Name</th>
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## Course Attributes

<table>
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<tr>
<th>Course Attribute</th>
<th>Description</th>
<th>Course Attribute Value</th>
<th>Description</th>
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<tbody>
<tr>
<td>General Education</td>
<td>T1-TRAD</td>
<td>Tier 1 Traditions and Cultures</td>
<td></td>
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Additional Course Information

| Minimum Units | 3 | Maximum Units | 3 |
| Instructors Edit | N | |
| Add Consent | N | |
| Grading Basis | GRD | |
| Repeat for Credit | N | |
| Allow Multiple Enroll in Term | N | |
| Total Units Allowed | 0 | |
| Total Completions allowed | 1 | |

Course Components

| Course Component | Discussion | Graded Component |
| Default Section Size | 30 | Primary Component |
| Workload Hours | 1 | Optional Component |
| Final Exam | N | |

| Course Component | Lecture | Graded Component | Y |
| Default Section Size | 30 | Primary Component | Y |
| Workload Hours | 2 | Optional Component |
| Final Exam | Y | |

Funding Analysis

Is proposal of this course associated with a new hire? Y

If approved, the Department will hire an adjunct lecturer with the credentials necessary to complete the course. He is the individual that developed the syllabus and is currently a Designated Campus Colleague.

Intended Course Fees: NA

*What programmatic need does this course satisfy: required or optional in what undergraduate or graduate majors, minors, or certificates?* This will fulfill a Tier 1 TRAD credit for undergraduate students. The course will be a non-technical class exploring aspects of human culture with diverse readings in history, classics, philosophy, religion, language, cultural anthropology, socioeconomics, gender studies, area studies (including non-Western), and art.

*Field Trips: None.*

*Provide a minimum of three learning outcomes for the course.*
- Studies historical development and fundamental concepts in European or other world cultures
- Provides an awareness that we, as historical beings, are shaped by the thoughts and actions of our predecessors and that we will influence the lives of those who follow us
- Examines cultures as distinct heritages of idea, values, and artistic expressions and view them as having undergone continual adaptation due to social changes
- Has a broad sweep both in terms of chronology and in terms of geography
- Emphasizes interdisciplinary and cross-cultural analysis
- Emphasizes the assessment, evaluation, and critique of culture

At the conclusion of this course students should be able:

1. To study the impact of information revolutions in history and analyze significant developments in how information has been presented, in both Western and non-Western contexts;
2. To understand the tradition and development of information systems, the major ideas that contributed to this development, and the ways that contemporary culture is shaped by those traditions and developments;
3. To understand and be able to evaluate the impact of social change resulting from the diffusion and accessibility of information technologies, including computers, and to understand how information revolutions are culturally and socially contextual;
4. To put the development of information technology in context with other scientific, cultural, political, and historical developments, and consider the impact of such development from the ancient to the modern period;
5. To evaluate competing historical and scientific claims and interpretations and engage in interdisciplinary analysis.
6. To think and write critically about future developments in information technology based on their understanding of the past.
7. To read articles for an author’s argument and be able to summarize the argument in writing; to synthesize, compare, and/or contrast the arguments of different authors.
8. To be able to construct an original argument in writing based on evidence drawn from assigned readings.
9. To locate, evaluate and effectively use information.
10. To learn to distinguish between different sources of information, and learn to appropriately use information for a given purpose.
11. To learn the legal, ethical, social issues surrounding information access and use.
12. To participate in individual, group, and interactive approaches to learning.

**Requester Details**

**Name:** Bridget E W Radcliff  
**Email:** bewrad@email.arizona.edu  
**Date:** 10/15/2014  
**Phone:** 520/621-4049  
**Department:** Computer Science

**General Education**

Please explain how the course satisfies the criteria below:

*Writing:*
Multiple composition forms are required in this class. In addition to short answer essays on the mid-term and final exam, written assignments in the form of reading briefs and the final paper will be required. These will be graded on form, grammar, content, proper citation, and critical and evaluative abilities.

**Total number of pages the student must write:** 15

*Will at least one writing assignment involve revision* after the instructor has provided feedback on a first draft or revision after an assignment in which peers have provided feedback on a first draft? Y

*Does the proposed course focus on non-western area studies and/or have a diversity emphasis? N

*Honors:*
This course is available for Honors credit through Honors Contracts. Honors students will meet with the instructor to discuss and choose a text relevant to the course content; develop a series of focused questions and evaluative criteria with instructor input; and write a 7-10 page book review, which critically analyzes the text and integrates knowledge gained from other texts in a comparative approach. Honors students will also work with the instructor to create the "Information Revolutions Wiki," using their own reviews as anchor entries, linking other student's reading briefs, and critically participating in the open source, peer-edited encyclopedia model of information technology as a pedagogical exercise, a means of exploring scholarship in the field, and as a practical example of an information revolution in practice.

*Assessment:*
The following learning outcomes related to assessment of understanding will be demonstrated in performance on quizzes, exams and responses offered in reading briefs and in the final research paper.

Understand the tradition and development of information systems, the major ideas that contributed to this development, and the ways that contemporary culture is shaped by those traditions and developments;

Understand and evaluate the impact of social change resulting from the diffusion and accessibility of information technologies, including computers, and to understand how information revolutions are culturally and socially contextual;

Put the development of information technology in context with other scientific, cultural, political, and historical developments, and consider the impact of such development from the ancient to the modern period;

Evaluate competing historical and scientific claims and interpretations and engage in interdisciplinary analysis.

*Critical Thinking Skills:*
The following learning outcomes related to critical thinking will be demonstrated in responses offered in reading briefs and in the final research paper.

Think and write critically about future developments in information technology based on their understanding of the past.

Construct an original argument in writing based on evidence drawn from assigned readings.

Locate, evaluate and effectively use information.

Distinguish between different sources of information, and learn to appropriately use information for a given purpose.

*Interactive Modes of Instruction:*
The class will be presented in lectures, guest lectures, demonstrations, videos, class discussions, and online participation. Discussion sections will focus on student participation and student-led projects, including building the "Information Revolutions Wiki."

*Information Literacy:*
The information literacy component is demonstrated in all the learning outcomes and students will be expected to thoughtfully and accurately utilize information to develop and support their ideas.

In-class discussions, discussion sections, team wiki-building projects, and electronic discussion boards facilitate opportunities for students to relate their activities with other students.

*Explain how required readings and materials will be available to students:*
There will be one required textbook and additional readings will be available in electronic format.

*Course Format* - Indicate the overall percentage of time spent in the following activities (total should add to 100%):

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>70 %</td>
</tr>
<tr>
<td>Discussion Section</td>
<td>30 %</td>
</tr>
<tr>
<td>Lab</td>
<td>0 %</td>
</tr>
<tr>
<td>Practicum/Service Learning</td>
<td>0 %</td>
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</tbody>
</table>
Will 40% of grade points be completed by the 8th week of classes? Y

SYLLABUS: CSC 160D1, Information Revolutions

Location and Times: TBA

Instructor: Linus Kafka, JD, PhD  Office Hours: TBA
Office: Gould-Simpson 746
Phone: 520-621-4324
Email: lkafka@ucla.edu
Office Hours: TBA
TA: TBD
Course Website: TBA

Brief Description:
This course is an interdisciplinary survey exploring the social, historical, and cultural context of information “revolutions,” the development of communication technologies that have had major impacts on civilization. Information technology in the form of computers is the defining feature of contemporary globalized society, but information technology is about much more than modern computing. Its development has taken place through knowledge and technical practices that are historically and geographically situated. In this course we will discuss the role of humans in shaping how information has been collected and used through the ages, culminating in the development of computer technology. We will pursue an understanding of these developments through historical, interpretive, and analytical methodologies – questioning common assumptions, uncovering meaning in historical narratives, and finding new ways to understand cultural interactions. The course will be a non-technical class exploring aspects of human culture with diverse readings in history, classics, philosophy, religion, language, cultural anthropology, socioeconomics, gender studies, area studies (including non-Western), and art. Although the course has a broad geographic and historical sweep, emphasis is given to how information technology in Western society has shaped and changed culture from the Industrial period in to the 21st Century.

This class also emphasizes learning as a networked activity in which there is a reciprocal relationship between teacher and student and a collaborative nature to professional work. Studying Information Revolutions helps teach us the connectivity and complexity of human traditions and what better way to demonstrate that lesson than by integrating a recent information revolution into the classroom? Using blogs, discussion boards, and creating a class wiki encourages us to reexamine classroom traditions and methods.

General Education Tier One – Traditions and Cultures Learning Outcomes

- Studies historical development and fundamental concepts in European or other world cultures
- Provides an awareness that we, as historical beings, are shaped by the thoughts and actions of our predecessors and that we will influence the lives of those who follow us
- Examines cultures as distinct heritages of idea, values, and artistic expressions and view them as having undergone continual adaptation due to social changes
- Has a broad sweep both in terms of chronology and in terms of geography
- Emphasizes interdisciplinary and cross-cultural analysis
- Emphasizes the assessment, evaluation, and critique of culture
At the conclusion of this course students should be able:

1. To study the impact of information revolutions in history and analyze significant developments in how information has been presented, in both Western and non-Western contexts;
2. To understand the tradition and development of “information systems,” the major ideas that contributed to this development, and the ways that contemporary culture is shaped by those traditions and developments;
3. To understand and be able to evaluate the impact of social change resulting from the diffusion and accessibility of information technologies, including computers, and to understand how information revolutions are culturally and socially contextual;
4. To put the development of information technology in context with other scientific, cultural, political, and historical developments, and consider the impact of such development from the ancient to the modern period;
5. To evaluate competing historical and scientific claims and interpretations and engage in interdisciplinary analysis.
6. To think and write critically about future developments in information technology based on their understanding of the past.

Additional Learning Outcomes for this course include the following skills:

7. To read articles for an author’s argument and be able to summarize the argument in writing; to synthesize, compare, and/or contrast the arguments of different authors.
8. To be able to construct an original argument in writing based on evidence drawn from assigned readings.
9. To locate, evaluate and effectively use information.
10. To learn to distinguish between different sources of information, and learn to appropriately use information for a given purpose.
11. To learn the legal, ethical, social issues surrounding information access and use.
12. To participate in individual, group, and interactive approaches to learning.

Course Goals and Implementation

**Tier One – General Education Course Goals:**

- **Requires sufficient readings (in terms of volume and content to provide fundamental knowledge)**
- **Emphasizes critical and evaluative thinking**
- **Writing and/or other forms of composition in multiple formats are integral parts of this course**

**Course Goals Implementation**

- Students read from a deep and wide variety of sources to gain fundamental knowledge in issues related to individual rights and internet technology;
- Students evaluate and analyze competing policy claims and interpretations related to the course content and construct an original argument in writing based on evidence drawn from assigned readings;
- Students are responsible for an independently researched final paper, as well as reading briefs to be integrated into a peer-edited electronic wiki.
- **Fosters independent, creative, interactive learning (i.e. group work, research projects, library work requiring use of printed and electronic sources)**

  Participate in peer-group interactive learning opportunities, such as creation of a class wiki related to course content and class discussions, as well as independent library research;

- **Provides students with opportunities to discuss course topics and material**

  In-class discussions, discussion sections, team wiki-building projects, and electronic discussion boards facilitate opportunities for students to relate their activities with other students.

**Texts:** Readings for this class are based primarily on articles from academic journals available in an additional online reader, available on D2L. Additional reading can be found in *Computing Before Computers*, Iowa State University Press, (Ames, Iowa, 1990), William Aspray, ed. and *Computer: A History of the Information Machine*, 3rd Edition, (2014), 360 p. by Martin Campbell-Kelly, William Aspray, et. al. This is referred to in the syllabus as “Computer.”

**Topics:**

This course is structured along lines of historic periodization, assuming a *teleological* progress in the human aptitude to develop increasingly complex computing machinery. However, certain basic concepts and ideas will appear repeatedly as general themes. The following topics will be covered, roughly one topic each week of the semester.

**I: Introductions**

**The Information Age**

**Record Keeping in the Ancient World**

Readings:

- Computers Before Computing, “Early Calculation”
- Computer, “Introduction”

**II: Information Explosion**

**Gutenberg to Galileo**


III Information in the Industrial Era

Information and the Factory, The Information Factory

• Computer, Chapter 1, “When Computers Were People.”

IV: The Age of Enterprise

Business and Information & Information for the Masses

• Computer, Chapter 2, “The Mechanical Office”
• Computer, Chapter 3, “Babbage’s Dream Comes True”

V: Information at War

The Military Role in Information Technologies

• Computer, Chapter 4, “Inventing the Computer”
• A. M. Turing “Computing Machinery and Intelligence.” Mind 49 (1950) 433-460.
• Jennifer Light,”When Computers Were Women,” Technology & Culture 40, no. 3 (1999): 455-83

VI: Cold War “Informants”

Ideology and Information Technology


**VII: Big Data**

*Business and Information in the Postwar World*
- Computer, Chapter 5 “The Computer Becomes a Business Machine”

**VIII: Information Workers in the Age of Computing**

*Software Developers*
- Computer, Chapter 8 “Software”

**IX: Anti-Information or “Counterculture”**

*From Hippies to Hackers*
- Chapters 1 and 2 of *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago Press, 2008)

**X: Sharing Information**

*Information and the First Internet*
- Chapter 2 “Building the ARAPNET: Challenges and Strategies” pp. 43-83
- Chapter 4 “From ARAPNET to Internet” pp. 113-147

**XI: Personal Computing**

*Information and the Individual*
- Computer, Chapter 10 “The Shaping of the Personal Computer”
- Apple Advertisement, October 1976
- [Additional optional reading: Neal Stephenson, *In the Beginning Was the Command Line*](http://example.com)
XII: The New Information Age
The Web and Beyond

- “Messing With the Magic,” from Ken Auletta, Googled: The End of the World as We Know It, (Penguin, 2010).

Course Format: The class will be presented in lectures, guest lectures, demonstrations, videos, class discussions, and online participation. Discussion sections will focus on student participation and student-led projects, including building the “Information Revolutions Wiki.” (See below).

Recommended Knowledge: Students are expected to have a basic, non-technical familiarity with computers and the ability to write short research papers.

Honors Contract: This course is available for Honors credit through Honors Contracts. Honors students will meet with the instructor to discuss and choose a text relevant to the course content; develop a series of focused questions and evaluative criteria with instructor input; and write a 7-10 page book review, which critically analyzes the text and integrates knowledge gained from other texts in a comparative approach. Honors students will also work with the instructor to create the “Information Revolutions Wiki,” using their own reviews as anchor entries, linking other student’s reading briefs, and critically participating in the open source, peer-edited encyclopedia model of information technology as a pedagogical exercise, a means of exploring scholarship in the field, and as a practical example of an information revolution in practice.

Assignments and Grading Policy: Mid-term Exam (15%); Final Exam (15%); Quizzes (20%); Reading Briefs (6 at 5% each); Final Paper (15%); Attendance (5%). The mid-term exam, ½ of the reading briefs, and ½ the quizzes will be completed prior to the end of the 8th week of class. Students will have information at that time necessary to calculate 40% of their grade.

Multiple composition forms are required in this class. In addition to short answer essays on the mid-term and final exam (see below), you will have written assignments in the form of reading briefs and the final paper. These will be graded on form, grammar, content, proper citation, and critical and evaluative abilities.

Reading briefs will be short (two-three page) review essays of one of the readings for the week in which they are submitted. You choose which weeks to hand in a Reading Brief, except that three are due prior to the mid-term exam and three after. You will have the opportunity to revise and resubmit your reviews based on feedback from the instructor. (See handout: “Writing an Academic Book Review.”)

Class Wiki: Students will collaboratively construct a class wiki, using their reading briefs as a starting point for enacting a version of the original hypertext vision – a user-editable environment where teacher and student rules can merge. The nature of the wiki can help raise critical questions about information sources and online authority while increasing opportunities for collaboration and communication.
The **Final Paper** will be a lengthier (seven-ten page) composition building on some topic of study covered in the course. It will require original research as well as integration of themes and topics covered in the course.

Assignments handed in later than the beginning of class the day due will be subject to a grading penalty of 10% with a grading penalty of 10% for each subsequent day late.

Grades will be assigned on the standard scale:

- **A**: 90%-100%
- **B**: 80%-89%
- **C**: 70%-79%
- **D**: 60%-69%
- **E**: 0% -59%

The quizzes, mid-term and final exam will be a mixture of multiple-choice questions and short answer questions. Questions will primarily be substantive rather than formalistic (i.e., they will focus on content and meaning more than rote facts).

**Attendance**: Attendance is required. To allow for illness or emergency, two absences are permitted without a grade penalty. The third absence will result in a half attendance grade. More than three absences will zero out your attendance grade.

All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean’s designee) will be honored.

**Classroom Behavior**: The Arizona Board of Regents’ Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one’s self. See: [http://policy.web.arizona.edu/threatening-behavior-students](http://policy.web.arizona.edu/threatening-behavior-students).

**Special Needs and Accommodations Statement**: Students who need special accommodation or services should contact the Disability Resources Center, 1224 East Lowell Street, Tucson, AZ 85721, (520) 621-3268, FAX (520) 621-9423, email: uadrc@email.arizona.edu, [http://drc.arizona.edu](http://drc.arizona.edu/). You must register and request that the Center or DRC send me official notification of your accommodations needs as soon as possible. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate. The need for accommodations must be documented by the appropriate office.

**Student Code of Academic Integrity**: Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: [http://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity](http://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity).

Students who violate the University Of Arizona Code Of Academic Integrity should expect a penalty that is greater than the value of the work in question up to and including failing the course. A record of the incident will be sent to the Dean of Students office. If you have been involved in other Code violations, the Dean of Students may impose additional sanctions.

The CS department policy can be found at: [http://www.cs.arizona.edu/policies/collaboration.html](http://www.cs.arizona.edu/policies/collaboration.html)
Confidentiality of Student Records
http://www.registrar.arizona.edu/ferpa/default.htm

Subject to Change Statement: Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.