

Survey of Science and Technology in Society

STS 1010-009

T/Th 3:30-4:45 p.m., WFIC 313

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Office hours: Th 9–11:00 am (Vickery); T 4:45-5:15 pm (lobby Watt); by appointment

Term: Spring 2019 (January 9, 2019 – May 3, 2019)



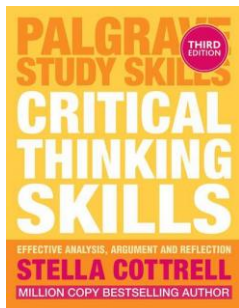
Course Content

Required Texts & Materials

Critical Thinking Skills, Third Edition

Effective Analysis, Argument and Reflection

by Stella Cottrell, ISBN-13: 978-1137550507



You will also need paper and pen/pencils, and a computer with software (word processing program, PowerPoint) and access to the internet and CANVAS. Other readings from eReserve/online.

There are online student resources associated with this text, available from the publisher: <https://www.macmillanihe.com/companion/Cottrell-Critical-Thinking-Skills-3e/learning-resources/>

Course Description

Science and technology are woven throughout our everyday existence, yet few people are aware of— much less take the time to critically analyze—the complexities of the interactions among science, technology, and society. It is the purpose of this course to examine the myriad relationships which have arisen between society and the institutions of science and technology; to augment students' scientific and technological literacy; and to provide a foundation of critical thinking that will benefit students' lives and minds in academia and beyond.

Course Objectives

By the end of this course, students should be able to

1. Identify significant issues created by the interactions among science, technology, and society
2. Explain ways in which science and technology are shaped by society
3. Explain ways in which society is affected by science and technology
4. Develop an increased skillset and familiarity with critical thinking terminology and concepts to assist in making informed, critical judgments about the adoption of new technology or the support of scientific initiatives
5. Formulate logical, well-supported arguments about science and technology in society using a critical thinking approach and higher-order thinking skills.

General Education Requirement

This course meets the Science and Technology in Society general education requirement: you will demonstrate an understanding of issues created by the complex interactions among science, technology, and society. While students are no longer required to upload artifacts to an ePortfolio, the university will be collecting artifacts from general education courses to evaluate general education, so your Final Exam will be uploaded to the assessment repository.

Course Policies

Grading Policy (The grade weighting for the course is as follows):

Test 1: 20%

Test 2: 20%

Final Essay: 25%

Online Quizzes: 10%

Homework: 10%

In-class assignments and participation: 15%

Grading scale:

A: 90-100

B: 80-89.9

C: 70-79.9

D: 60-69.9

F: below 60

I round up (89.5 =90, 89.4=89)

Attendance

Attendance is expected and vital to the learning process. Any material covered in class and announcements made (including changes in assignments and policy) in class are your responsibility. **If you miss class, you are expected to know what happened.** The Dean of Student's office will be notified about students with excessive absences or who miss the first exam/assignment without notifying the instructor.

Thus, the attendance policy for this course is as follows:

- You may miss up to four (4) class meetings. In most classes there will be an in-class assignment that is collected.
- If you miss five (5) classes, you cannot earn higher than a B;
- If you miss six (6) classes, you cannot earn higher than a C;
- If you miss seven (7) classes, you cannot earn higher than a D;
- Missing eight (8) or more classes will result in an automatic F.

If you **miss more than 20 minutes** of a given class, you will be counted absent. If you **sleep** through *any* part of class, you will be counted absent. If you are using electronic devices (phone, tablet, laptop) in such a way that you are obviously distracted and not truly "present" in class, I will count you absent.

Generally speaking, I will not differentiate between excused and unexcused absences. Four allotted absences should be plenty, even if one of those absences is due to a field trip or other school- sponsored event. However, I will make

exceptions for extenuating circumstances, such as ongoing/lingering illness, disability accommodations, athletic travel, etc.

When coming to class, please be on time. Moreover, arriving late to class (or leaving early) is unprofessional and distracting, so your being tardy will be factored into your participation grade. You will be considered tardy if you arrive after class activities have begun. **If you are tardy, it is your responsibility to check and make sure that I noticed your arrival and counted you present.** Otherwise, you may be counted absent. Both tardies and absences will reflect negatively on your participation grade.

Waiting Policy: If I should ever be late for class, please wait 15 minutes before assuming class is canceled.

Watt Center Food and Drink Policy: All drinks MUST be in closed containers. No food.

Coursework schedule and submission of work from other courses: Students are not allowed to submit work from other courses. The instructor may alter an assignment or the topic of a class meeting if she deems it will benefit the class.

Cell Phone Policy: It is NOT acceptable to have your cell phone ring or to be text messaging during class. Doing so is disruptive to other students and a show of disrespect to the instructor.

Class Disruption: You will be asked to leave the class if you prevent others from learning and dropped from the course if such behavior continues. Ringing cell phones can qualify for being ejected from a specific class.

Prerequisites: There are no prerequisites for STS 1010.

Instructor Evaluations: All students are *strongly urged* to submit an evaluation.

Communication: You can expect a response to your email inquiries within 36 hours, excluding weekends and university holidays, except as otherwise noted by the instructor.

How to be successful in this course: Come to class on time, with an open mind, and participate, Do the readings ahead of time and take the quiz by the deadline. Do the homework and essays and submit on time. Do your own work. Make sure all in-class assignments are turned in on time, with your name. Make sure to check your Clemson email on at least a daily basis. You are responsible for anything that is communicated through email and/or Canvas, whether it be an emergency class cancellation, a new homework assignment, etc.

Because privacy regulations stipulate that faculty and staff communicate with students through authorized University channels, use your University email account or Canvas's messaging system to contact me. Canvas allows you as a student to quickly notify

instructors of an absence from class and provides set categories (e.g. court attendance, illness, family illness or death, military duty, hospitalization, university function, religious observance). This does not serve as an excuse from class but allows students to communicate with instructors (all or some, of their choice). Consult with instructors when discussing absences. The Dean of Students' office can also be of assistance.

Technology Requirements and Skills

You will need to access this course through **Canvas** Learning System on a regular basis, as I will be using it to post announcements and grades as well as course documents. You will also be submitting out-of-class assignments through **Canvas**. You should **adjust your notification settings** in Canvas so that you are immediately notified (via email or text) whenever I post a new announcement; this will ensure you are aware of any timely changes in schedule or other important messages.

Laptops are permitted if their use is related to the class. Checking email, facebook, playing video games, surfing, etc. are detrimental to the learning process. Inappropriate use could result in your being marked absent or reflecting negatively in your participation grade.

To be successful in this course, you must have a minimum working knowledge of your computer system, a web browser, and a word processing program. If you do not have this knowledge or the skills, consider taking a short computer course prior to enrolling in an online course.

For technical assistance with the course site, students should contact ithelp@clemsun.edu or visit [CCIT's website](#).

Graded Elements

Tests and Final Essay

There are two hour “tests” and a final test. All of these tests are essays. You will have a week to complete them. **You will submit your test (essay) into Canvas**, via TurnItIn. You are required to print the first essay and bring it to class on the due date as well. **The deadline for the test will only be extended with official documentation of legitimate absence on the date in question.** If you are ill or have another emergency that prevents you completing and turning in this assignment on the due date, it is your responsibility to notify me and provide documentation within 48 hours of the missed assignment. Should we miss a test due to inclement weather or emergency class cancellation, plan on submitting the test on the next scheduled class date unless otherwise noted. **The final will be due at 2 pm: @end of your scheduled exam time, Friday, May 3, 11:30 – 2 pm.**

Readings

As with any class, reading the assigned sections before class will enhance your ability to understand the material being presented.

Online Quizzes

Taken through Canvas, they assess your completion of assigned reading and your grasp of basic concepts. You alone should complete the quiz. Due BEFORE class on date in syllabus. **NO quiz redos after due data** without doctor's excuse.

Homework

There will be at least one homework from each of the chapters in the required CT text. There will be other assignments that may be assigned during class or via Canvas to be completed at home. **NO HW redos after due data** without doctor's excuse.

In-class Activities and Participation

You are required to complete the in-class activity by the end of the class in which they are presented. There is no schedule for these activities, they will come up randomly. You may need your laptop or smartphone to complete these activities. Think of your participation in this class as you demonstrating consistent engagement with the course readings, the material in general, our class discussions, and/or your peers' insights and questions.

In-class participation isn't just about contributing to discussions. It also involves non-verbal elements such as actively listening; being prepared; and staying on-task.

Here's a non-exhaustive list of ways that you demonstrate classroom civility:

- treating classmates and instructor with respect
- arriving punctually so as not to disrupt class
- bringing all assigned readings and materials to class, every day
- staying on-task so as not to distract anyone, including yourself
- keeping cell phones put away (and on silent)
- using laptops for required class activities only
- saving naps for *after* class

ONE in-class assignment, ONE quiz, and ONE homework grade will be dropped.

Course Itinerary

*schedule is subject to change; see Canvas and/or email for any updates

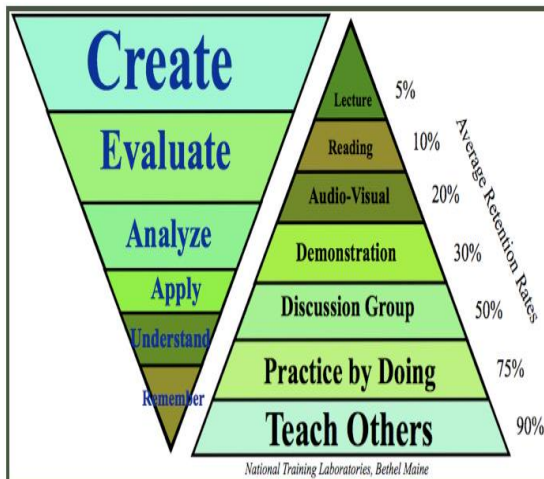
*any readings not from CT textbook are available via Canvas

*In general, Homework assigned and Quizzes are due at the start of class

Date	Reading due/class topic <i>It is expected that the readings are completed before the class for which they are assigned.</i>	16Apr19
Unit 1		
Th 1/10	Syllabus, Blooms Taxonomy	
T 1/15	Introduction to Critical thinking Chapter 1 in CT book READ: The Four Agreements, p. 1-11 HW: CH 1, pgs. 14-16, complete exercises	Room Technology Submit HW online by 3:30p Bring to Class Top 3 chapters you want to develop skills in further
Th 1/17	Chapter 2 in CT book HW: CH 2, p. 22 eReserve: Volti: Ch 2, Quiz on Volti	Quizzes due @ 3:30p
T 1/22	eReserve: "Thanks for Oversharing" eReserve: Winner, "Technologies as forms of Life", p. 103-109 Chapter 3 in CT book, HW: Ch3 Quiz Ch 1&2 CT book	
Th 1/24	eReserve: "Wired for Distraction", watch the first 43 minutes of Digital nation: http://www.pbs.org/wgbh/pages/frontline/digitalnation/view/ eReserve: "Attached to Technology and Paying a Price" Quiz on AT&PP & Wired/Digital Nation	VR Tour during class
T 1/29	Chapter 4 in CT book HW: Ch 4, Reflection/Questions VR due	Group presentation
Th 1/31	READ: Stored Communications Act	Guest Speaker: Susan Reeves on Data Security
T 2/5	eReserve: "Is Facebook Making me Lonely?", watch http://www.ted.com/talks/sherry_turkle_alone_together.html , eReserve: "The Scientific Flaws of Online Dating Sites" and "Love in the Age of Like" Quiz on Online Dating Chapter 5 in CT book HW: Ch 5 Quiz Ch 3 & 4 CT book	Group presentation
Th 2/7	eReserve: Postman: "Disappearance of Childhood" Quiz on DOC eReserve: Carr: "Is Google making me Stupid?" Quiz on Google/Stupid	Test 1 assigned Guest speaker: Data Analytics
T 2/12	Chapter 6 in CT book HW: Ch 6, Reflection Data Analytics due	Group presentation
Th 2/14	<i>Guest Speaker: Dr. William McCoy on Ethics</i> TEST 1 due at 3:30 pm: Data Privacy	Bring hard copy & submit in Canvas

Unit Two		
T 2/19	Chapter 7 HW: Ch 7, Reflection on Ethics Discussion	Group presentation
Th 2/21	Guest speaker: Dr. David Knox	
T 2/26	Chapter 8 HW: 8 (3:30 pm) Quiz Ch 5 & 6 CT book (midnite)	Group presentation
Th 2/28	eReserve: "CRISPR-101" https://www.ted.com/talks/jennifer_doudna_we_can_now_edit_our_dna_but_let_s_do_it_wisely?utm_source=tedcomshare&utm_medium=email&utm_campaign=tedsread and https://ideas.ted.com/the-promising-and-perilous-science-of-gene-editing/	Guest Speaker: Professor C. Minor
T 3/5	Chapter 9 HW: Ch 9 CT book Quiz Ch 7 & 8 CT book HW: reflection Nest/Google/Person of Interest	Group presentation
Th 3/7	eReserve: Rosenberg, "Role of Science in the Innovation Process", p. 231-243 Quiz on Rosenberg	
T 3/12	Chapter 10 HW: Ch 10	Group presentation
Th 3/14	eReserve: Oscar Handlin, "Science and Technology in Popular Culture" Quiz on Handlin	Test 2 assigned
T 3/19	Spring Break	
Th 3/21	Spring Break	
T 3/26	Chapter 12 HW: Ch 12 QUIZ: Ch 9 & 10 CT	Group presentation
Th 3/28		Guest Speaker: J. Adelberg
Unit Three		
T 4/2	Midwest Flooding Activity TEST 2 due at 3:30 pm: Climate Change or Med. Marijuana	Bring hard copy & submit in Canvas
Th 4/4	eReserve: Neil Postman, "Technology", p. 36-52 Quiz on Postman/Technology	Guest Speaker: John Hains
T 4/9	Chapter 13 HW: Ch 13	Group presentation
Th 4/11	eReserve: Garrett Hardin: Tragedy of the Commons, in-class video: http://www.youtube.com/watch?v=dD-yN2G5BY0 Quiz Ch 12 & 13 The Story of Stuff: https://storyofstuff.org/movies/story-of-stuff/	
T 4/16	Film: Guns, Germs, and Steel: Part 1: http://www.youtube.com/watch?v=bgnmT-Y_rGQ Part 2: http://www.youtube.com/watch?v=Se-ina_bhJ0 Part 3: http://www.youtube.com/watch?v=0hxHZPdH690	

	Part 4: http://www.youtube.com/watch?v=uRG7-282QXM Part 5: http://www.youtube.com/watch?v=0edh5Itvhy8 Part 6: http://www.youtube.com/watch?v=gBHs_1_xCN8	
Th 4/18	e-Reserve: Pollan, “Omnivores’ Dilemma”, Intro (all); Ch 1: p. 15-20, 31; Ch 2: p. 32-47 Quiz on Pollan OD	
T 4/23	eReserve: A Short History of Progress (SHOP), Chapt 1, p. 1-14 Quiz on SHOP Green Revolution Reading in Class Activity	Final Essay assigned
Th 4/25	Honey Bee Biology Wrap-up	
exam week (4/29-5/3)	Final essay to be completed at your leisure during last week/exam week (available Apr 23)	Due @ end of exam period: Friday, May 3, 2p



BLOOM'S RANKING OF THINKING SKILLS					
Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
List Name	Summarize	Solve	Analyze	Design	Evaluate
Identify	Explain	Illustrate	Organize	Hypothesize	Choose
Show	Interpret	Calculate	Deduce	Support	Estimate
Define	Describe	Use	Contrast	Schematize	Judge
Recognize	Compare	Interpret	Compare	Write	Defend
Recall	Paraphrase	Relate	Distinguish	Report	Criticize
State	Differentiate	Manipulate	Discuss	Justify	
Visualize	Demonstrate	Apply	Plan		
	Classify	Modify	Devise		

University Policies

Student Accessibility Services

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information at the [Student Accessibility Services Website](#) and the [Office of Access and Equity Website](#).

Copyright

All materials found in this course are strictly for the use of students enrolled in this course and for purposes associated with this course; they may not be retained or further disseminated. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.

Privacy Policy

This course is designed with your privacy in mind. If, however, you feel that an assignment or technology tool undermines your right to privacy, please contact me immediately. We will work together to determine an alternative assignment that will help you achieve the course learning outcomes.

Academic Integrity

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

A simple definition of plagiarism is when someone presents another person's words, visuals, or ideas as his or her own. The instructor will deal with plagiarism on a case-by-case basis. All infractions of academic dishonesty will be reported to Undergraduate Studies for resolution through that office. The most serious offense within this category occurs when a student copies text from the Internet or from a collective file. This type of academic dishonesty is a serious

offense that will result in a failing grade for the course as well as the filing of a formal report to the university. See the Clemson [site](#) for information about Academic Integrity and procedures regarding the violation of Clemson policies on scholastic dishonesty.

Here are some additional ways in which a student might plagiarize:

- Using a source's exact words without quotation marks (even if the source is cited in-text)
- Using a source's information without citing at all
- Using another paper as a template for organization, whether the source is cited or not
- Getting ideas or inspiration from an outside source without proper citation
- Citing (or not citing) in such a way that your ideas and your research are indistinguishable
- Submitting ("recycling") work completed for another class without express permission from the instructor

Academic Grievances

Students are advised to visit the [Ombuds' Office](#) prior to filing a grievance. After discussion with the undergraduate academic ombudsman, students should contact Undergraduate Studies (656-3022) for assistance filing official paperwork.

Non-Discrimination

Clemson University is committed to providing a higher education environment that is free from sexual discrimination. Therefore, if you believe you or someone else that is part of the Clemson University community has been discriminated against based on sex, or if you have questions about Title IX, please contact the Title IX Coordinator, Alesia Smith, who also serves as the Executive Director of Equity Compliance, at 110 Holtzendorff Hall, 864-656-3181 (voice) or 864-656-0899 (TDD). The Title IX Coordinator is the person designated by Clemson University to oversee its Title IX compliance efforts. Please consult the [University's Title IX policy](#) for full details.

Student Support Services

Academic Success Center

The Academic Success Center provides free services, including tutoring, academic coaching, and academic skills workshops, for all Clemson students. Visit the [Academic Success Center website \(www.clemson.edu/asc\)](#) for more information on their services and workshops.

Writing Center

Clemson University's Writing Center offers free one-on-one tutoring for all Clemson students. Visit the [Writing Center's website](#) for more information about their services or to make an appointment.

Cooper Library

Reference librarians are available in person and via text, phone, email, and chat to answer your research questions. Visit [Ask a Librarian](#) for more information or to get in touch with a librarian.

Technical Support

If you are having hardware or software problems, CCIT's Service Desk may be able to help you. Contact them at ITHELP@clemsun.edu with a detailed description of your problem.

Academic Advising

[Academic advising](#) is an ongoing educational process that connects the student to the University. Academic advising supports the University's mission of preparing the student for learning beyond the confines of the academy. Academic advisors represent and interpret University policies and procedures to the student and help the student navigate the academic and organizational paths of the institution.

Registrar

The [Registrar's office](#) provides information about important deadlines, degree and program requirements, and other key information, including use of iROAR to add, drop, or withdraw from courses.

Important Dates Spring 2019

Dates below are for the regular spring semester.

Jan 9 (Wed), Classes begin

Jan 15 (Tue), Last day to register or add a class or declare Audit

Jan 21 (Mon), Martin Luther King Jr. holiday

Jan 23 (Wed), Last day to drop a class or withdraw from the University without a W grade

Jan 30 (Wed), Last day to apply for May commencement

Mar 1 (Fri), Last day for instructors to issue midterm evaluations

Mar 15 (Fri), Last day to drop a class or withdraw from the University w/o final grades

Mar 18 (Mon) - Mar 22 (Fri), Spring break

Apr 6 (Sat) - Apr 13 (Sat), Honors and Awards Week

Apr 8 (Mon), Registration for fall term begins

Apr 25 (Thu) - Apr 26 (Fri), Classes meet; exams permitted in labs & 1-hour courses only

Apr 29 (Mon) - May 3 (Fri), Examinations

May 6 (Mon), 9:00 A.M.--Deadline to submit candidate grades

May 8 (Wed), 9:00 A.M.--Deadline to submit other grades

May 8 (Wed), Candidates for commencement may access grades

May 9 (Thu) - May 10 (Fri), Commencement