

**Marshall University**  
**IST 120 Syllabus**

Course Title/Number	IST 120 CONNECTIONS I (CT)
Semester/Year	<b>FALL SEMESTER 2014</b>
CRN	<b>4508</b>
Days/Time	T/Th 12:30 pm – 1:45 pm
Location	Morrow Library Commons
Instructor	Elizabeth E. Murray, Ph.D.
Office	241G Byrd Biotechnology Science Center (BBSC)
Phone	304-696-3515
E-Mail	murraye@marshall.edu
Office/Hours	Office hours: T/Th 9-11; M/W 9-10 and by appt. I may be in BBSC 211 (lab) so call or text my cell phone given in class. Please give your name and class time if you text me so I know who you are.
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to <a href="http://www.marshall.edu/academic-affairs">www.marshall.edu/academic-affairs</a> and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to <a href="http://www.marshall.edu/academic-affairs/?page_id=802">http://www.marshall.edu/academic-affairs/?page_id=802</a> Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

**Course Description: From Catalog**

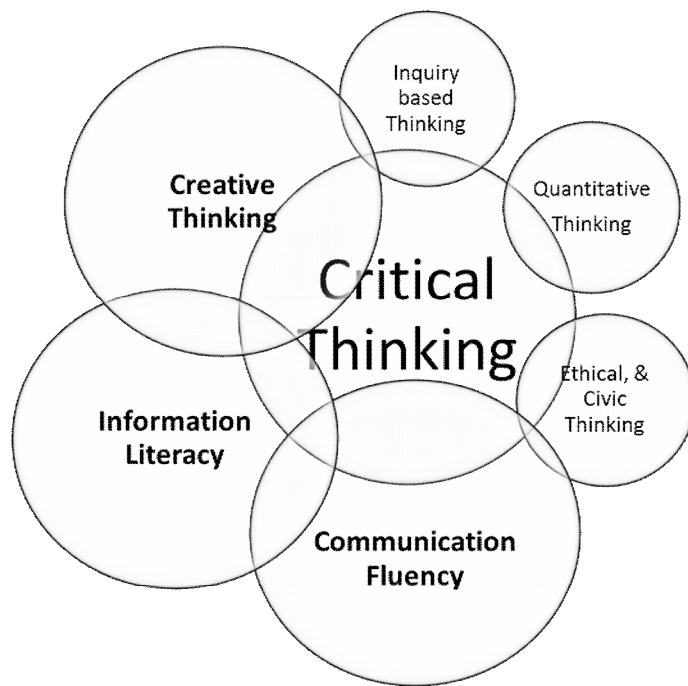
IST 120 Connections is a Critical thinking course that makes connections among science, technology, and society. Students learn to do research, summarize popular and scientific articles, and design an experimental or observational study.

We will examine particular cases related to risk and how the historical events and ethical concepts influence the perceptions of science and technology in society. Assignments will help you learn to conduct library-based research, summarize and evaluate popular and scientific articles about risk, and propose a scientific or social scientific study related to risk. We will explore questions related to risk in class in order to help you think more critically about the links between science, technology and society including the gap between scientific assessment and the subjective evaluation of different types of risk

**Desired Objectives/Outcomes:**

Learning Objectives: By the end of this course the student should be able to apply concepts to think critically in the various core domains that comprise critical thinking.

Specifically this course addresses major domains of Informational and Technological Literacy and Oral, Written and Visual Communication as well as minor domains of Scientific Thinking, Ethical and Historical Thinking, Aesthetic and Artistic Thinking, Multicultural and International Thinking, and Mathematical and Abstract thinking.



### Required Texts, Additional Reading, and Other Materials

1. Required Text: *The Demon Haunted World: Science as a Candle in the Dark*. Carl Sagan. Ballantine Books New York. 1996.
2. Required Text: *Do You Believe in Magic? The Science and Nonsense of Alternative Medicine*. Paul A. Offit Harper Collins 2013
3. Keep up with what is happening in world, read The New York Times or similar newspaper online
4. Additional book chapters, handouts, technical papers and films from instructor

### Course Requirements / Due Dates

1. Reading quizzes will be given to assess that students are keeping up with reading. A reading quiz may be given any day a reading is assigned.
2. Random Fun Activities (RFA)- in class assignments for which you will be awarded points.
3. Participation is critical for this class. The instructor will assess participation in a number of ways including attendance. You cannot participate if you miss class. Instructor may call on you, request answers to questions in the group or break the group into smaller groups for discussion and presentation. Instructor also encourages students to ask questions about the reading and topic for discussion and to bring in relevant topics from the news.
4. There are three major assignments- a researched debate, a written summary of a scientific paper and a scientific study proposal. The scientific study proposal is broken into six parts, with each part assessed

points and having a distinct due dates. Specific dates are in the course schedule below and may change if circumstances dictate. Detailed assignment sheets will be posted as well as grading rubrics.

- There are two speaking assignments- a debate and a formal presentation of the grant proposal. A presentation requires an audience, so you will lose points if you skip these classes when others are presenting. Please see the specific assignment sheet for the grading matrix and participation information.

<b>Course Student Learning Outcomes</b>	<b>How Practiced in this Course</b>	<b>How Assessed in this Course</b>
<b>PLO #2:</b> In the development of a research project, students will scientifically <i>analyze</i> data, <i>evaluate</i> and <i>incorporate</i> relevant research, and <i>describe</i> potential implications.	In-class examples, discussions, written summary, assigned readings from Sagan and Offit, other assigned readings, films, Research Proposal assignment.	Debate assignment, Research article summary, Research proposal project
<b>PLO #3:</b> Students will effectively <i>communicate</i> in relating findings and recommendations resulting from projects.	In-class examples, discussions, written summary, assigned readings from Sagan and Offit, other assigned readings, films, Research Proposal assignment.	Debate assignment, Research proposal project
Students will <i>perform</i> assignments as a multi-stage process incorporating drafts, feedback, and revision.	Assignment of Research Proposal in six parts: Meet with professor to discuss topic of study; Annotated bibliography; Literature Review; Outline study proposal; Oral summary of study; Written study proposal	Final project assessment will be based on Content, Organization, Delivery and Style (discussed in more detail below.)
Students will <i>demonstrate</i> mastery of informational literacy <i>by identifying</i> unfamiliar terms and concepts and <i>summarizing</i> scientifically established and perceived risks.	Assigned readings from Sagan and Offit, other assigned readings, films, in-class examples, discussions with other students, research methods assignments, written summary, Research Proposal.	Reading Quizzes and final reading quiz, evaluation of discussion participation by professor, Research Proposal assignment, written summary assignment.
Students will <i>demonstrate</i> communication fluency through written and oral assignments and <i>presentation</i> of a proposal for a scientific or social scientific study using appropriate visuals.	In-class examples, discussions, handouts for assignments, class presentations.	Final Presentation of Research Proposal, Written Research Proposal, Written summary assignment.
Students will <i>evaluate</i> the assumptions of sources and the reasoning of arguments about science, <u>applying</u> critical thinking arguments relating to	In-class examples, discussions, assigned readings from Sagan and Offit, other assigned readings, films, internet search assignment,	Research Proposal assignment, written summary assignment, Reading Quizzes, evaluation of discussion

science (inductive and deductive reasoning, evidence and fallacies).	and Research proposal assignment.	participation by professor, internet search assignment.
Students will <i>use</i> scientific and statistical principles to propose a scientific or social scientific study, critically <i>evaluate</i> previous studies, and <i>design</i> a new experimental or observational study. The student's paper will <i>link</i> knowledge and skills derived from their research activities with knowledge acquired in class; students will <i>define</i> research goals and objectives for the proposed research based on relevant scholarship.	In-class examples, discussions, written summary, assigned readings from Sagan and Offit, other assigned readings, films, Research Proposal assignment.	Research Proposal assignment
Students will <i>explain</i> diverse perspectives on a contested issue and <i>evaluate</i> insights gained from different kinds of evidence reflecting scholarly and community perspectives.	In class examples, discussions, Team debate, annotated debate source bibliography	Team debate participation and annotated debate source bibliography

### Grading Policy

**Evaluation of Learner Outcomes:** Major assignments will be evaluated using a three-part approach:

- **Content, the substance of what you say or write.** This includes the topic, focus, how well the paper or presentation answers the assignment, the use and integration of supporting materials, understanding of principles and their application. Outside references should be properly cited.
- **Organization, how you arrange what you say or write.** This includes effective introductions and conclusions, paragraphing, main points being clearly indicated and arranged and transitions logically connecting those points.
- **Delivery/Style, how you present the information in a speech or paper.**
- For oral assignments, delivery will include both verbal aspects (vocal rate, clarity and variety, use of pauses, absence of distractions) and nonverbal aspects (professional manner, , professional dress, eye contact, posture, use of gestures and movement and effective use of visuals).For written assignments, style will include sentence structure, use of language, proper grammar, spelling, syntax and preparation of paper.
- Debate grade is a team grade. It is important to communicate with team members and work cooperatively. Please report team issues to Dr. Murray promptly should they arise.
- Your grades will be posted in MU online. Pay attention to points total compared with points in the assignment to follow with your letter grade.
- Some extra credit assignments will be posted, since there are good talks to attend outside class. These are optional, but can help you improve your grade and learn more about the topic.

**Point Breakdown:**

Assignment	Points	Due Date
Reading Quizzes	100	Weekly
Final Exam on Books	50	Final Exam Date
Attendance/Random Fun Activities	100	Daily
Team Debate	100	Week of 9/23
Team Debate Annotated Bibliography	50	After Debate
Written scientific article summary	100	10/16
Meet with Dr. Murray about study topic	50	By appointment by 10/30
Annotated Bibliography	75	11/6
Outline	75	11/13
Oral presentation of study proposal	50	12/2-12/4
Written Study Proposal	250	12/4
Total	1000	

Final Grade scale:

A	=	901-1000 pts	<u>Excellent work, goes significantly beyond class requirements.</u>
B	=	801-900 pts	<u>Very good work, meets or exceeds all class requirements.</u>
C	=	701-800 pts	<u>Average work, meets class requirements.</u>
D	=	601-700 pts	<u>Below average work, fails to meet one or more class requirements.</u>
F	=	600 pts or less	<u>Unacceptable work, fails to meet the minimum class standards.</u>

Please take advantage of the Writing Center and meet with Dr. Murray for assistance.

**Course Outline:**

**Unit one: Making sense of science**

Discussion of critical thinking process  
Discussion of scientific research controversies  
Library/Internet research and evaluation of sources  
Debate preparation and debate

**Unit two: Summarizing and synthesizing sources**

Evaluating quality of science  
Summarizing research articles  
How to review the scientific literature

**Unit three: Scientific and Social Scientific Studies**

How is Science Funded and regulated?  
Hypotheses and proposals  
Understanding scientific studies and statistics  
Designing and presenting a scientific or social scientific study

## Class Policies

- **Class Participation:** A central part of this course is class participation. In order to participate effectively in the course, a shared body of knowledge is necessary, meaning that reading and other assignments will need to be completed before class so you are ready to discuss the day's topic and participate in Random Fun Activities.
- **Reading Assignments:** Students are expected to complete the reading for each class before class starts. There will be reading quizzes based on the content of the readings.
- **Attendance:** Is essential given the interactive nature of this course and the importance of class discussions.
- There will be frequent in-class assignments and quizzes on the reading. Missing these will only be allowed with a university approved absence. Habitual lateness will also be penalized. Do not come to class and sleep, read the newspaper or
- **Lateness Policy:** This class is preparation for the professional world you will all be entering. You will be expected to turn in assignments and complete presentations on the day you are scheduled. Students should turn in written work in MU Online by midnight on the day it is due. Unless the absence is a University-excused, late assignments will be penalized by 10% or one letter grade.
- **Extra Credit:** Quality extra credit opportunities will be posted. Some are in the syllabus but there will be others.

## Course Schedule

**IST 120 Connections I – Fall 2014 – Semester Schedule :** This schedule and the topics may change during the course of the semester. The reading assignments may be supplemented with other readings.

Date	Topic	Reading due	Assignments Due
August 26	Introduction to Class		
August 28	Relative Risk	Sagan 1-22	
September 2	Public Health and Risk	Offit 1-24	
September 4	Risk Reduction Matrix Exercise and accidents	Offit 25-46	
September 9	How to Debate Topics Assigned	Sagan 25-39	Debate topics assigned
September 11	How to Research Science Controversies Dr. Oz and Green Coffee Extract	Offit 47-64 Green Coffee Article	
September 16	Asbestos	Offit 65-93	
September 18	Lead	Offit 95-110	
September 23	Debates	Offit 128-139	Debates
September 25	Debates	Offit 140-162	Debates
September 30	Autism and Vaccination Video	Offit 163-173 Believing in Treatments that do not work.	Articles for summaries assigned
October 2	Read and summarize a scientific article	Offit 173-196	Extra Credit: Play Pandemic

October 7	Human Experimentation	Offit 197-222	Extra Credit- take the human experimentation course at CITI site
October 9	Prohibition: Alcohol	Offit 223-257	
October 14	Prohibition- Marijuana	Decision Grid on global warming	
October 16	Global Warming	Sagan 41-60	Scientific Article Summary due
October 21	Global Warming and Politics video		Worksheet on Frontline Video
October 23	Major Project Assignment explained	Sagan 61-78 Thinking about belief	
October 28	Faces on Mars and Aliens	Sagan 79-96	
October 30	Big Foot and Shark Week	Sagan 97-112 Thinking about beliefs	Research Topic due
November 4	Kennedy Assassination video and discussion	Sagan 113-134	
November 6	Lindberg Kidnapping and Columbine: Myths and Reality	Sagan 135-168	
November 11	Eye witness testimony	Sagan 169-188	
November 13	Video Games and Violence	Sagan 189-200 <a href="http://www.nytimes.com/2013/02/12/science/studying-the-effects-of-playing-violent-video-games.html">http://www.nytimes.com/2013/02/12/science/studying-the-effects-of-playing-violent-video-games.html</a>	
November 18	GMO foods- safety and labeling	Sagan 201-218 <a href="http://www.newyorker.com/magazine/2014/08/25/seeds-of-doubt">http://www.newyorker.com/magazine/2014/08/25/seeds-of-doubt</a> <a href="http://www.nytimes.com/2014/01/05/us/on-hawaii-a-lonely-quest-for-facts-about-gmos.html">http://www.nytimes.com/2014/01/05/us/on-hawaii-a-lonely-quest-for-facts-about-gmos.html</a>	
November 20	Tomato Sauce and Processed Food	Sagan 280-291	
November 25	Thanksgiving Break		
November 27			
December 2	Presentations	Sagan 353-366	Oral Presentation Round 1
December 4	Presentations		Oral Presentation Round 2
December 9	Final Quiz		Tuesday Dec 9 12:45

**Dr. Murray's Class Schedule**

<b>Time</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
8					
9	office	office	office	office	
10	IST 444 10-11		IST 444 10-11		IST 444 10-11
11					
12		IST 120		IST 120	Faculty Meeting
1	IST 340	12:30-1:45	IST 340	12:30-1:45	IST 340
2	IST 340		IST 340		IST 340
3	1-2:45		1-2:45		1-2:45
4		IST 120	help 224	IST 120	
5		4-5:15		4-5:15	
6				help 224	

**Possible Debate Topics:**

Should there be Mountaintop Removal Mining near the Kahawha River Forest?

Should States require Electronic Safety Triggers on handguns to reduce firearm accidents or crime?

Do Men and Women have equal potential in STEM fields?

Should Recreational Marijuana Be Legalized in West Virginia?