

**Week &**

**Date**     **Syllabus for First Year Seminar. Dr. Doug Duncan, Fall 2019**

**Assignments**

This seminar is designed to help you succeed in college and provide useful skills that will prevent you from getting fooled either now or in the future. It will improve your analysis and communication skills (which are skills that employers value). Along the way we will have fun discussing things that seem believable, but are not true.

Some weeks we will choose a news item whose truth is uncertain. During the week everyone will try and figure out if it is true. On Thursday everyone will bring in the information you have found, and we will discuss if it was true.

We will read "1984" by George Orwell, and parts of "Lies my Teacher Told Me," which is free on our Canvas website. We also will watch several movies about news, information, and disinformation. The required book is available in the bookstore or online. You need it by the end of the first week.

I will often post a question or article on line, for you to respond to on line. This will be part of your participation grade. (See the file "1st Yr. Seminar Course Info")

You can think of our seminar as being in 3 parts. #1 - How to find factual information. #2- How to **understand** the meaning of news. #3 There can be different opinions about the meaning of events. Everyone is entitled to their own opinion, but not their own facts!

**Red are Power Points; Blue are readings-based**

**Week 1 Introductions. How to Understand our World (and our Incredible Universe?!)**

**Aug. 27** Introduce yourselves. Hopes/fears for college.  
[Introduce myself.](#) [My diverse career.](#) [Show a "professor schedule"](#)  
Goals for the seminar. What would **you** like to learn in this class?

**Week 1 Introduce Self**  
**What do you want to achieve in college?**

How will you feel and respond if you find things you've believed are untrue?  
Ways of understanding the world. "Black and White?" "Good or Evil?" You?

**Good/bad science websites**

What is the importance of a Free Press? What should it do? **Read Why Freedom of the Press is more important than ever in class.**  
Where do you get news from? What are characteristics of accurate news? Fast or slow?  
References...

**NY Times Bruni - How to get the most out of college**

The Nahum Arav challenge. Are you entitled to your own facts or opinions?  
Sagan Series #1

**How Fake News Turned a Small town upside down**

**AUG 29 WE MEET AT FISKE PLANETARIUM!**

**Are You New to Boulder?**

**Week 2 Tips for success in college. DBER research at CU.**  
**Sept. 3 Start: What is Science? How can you use it to not be fooled.**

How do you study & prepare for exams? **Discussion**  
What is most important for study success **Discussion**  
How to get the most out of studying. Video #1 of 5.  
How to study in college. How to read a textbook or a novel.  
**LearningResearch.ppt**  
Awesome, icky, crazy things that people believed in the past. (**Week2 Icky ppt**)

**1984: Chapters 1-3.**

Remind "Phones off"  
**List 3 characteristics of good and of bad science**  
**List 3 characteristics of good and of bad news**  
**Strengthening the Student**

**Week 3 What is Science**  
Best and worst things that science has done for us and to us **Discussion**  
Characteristics of good science and bad, fake, bogus, "pseudoscience." **Discuss**

**Toolbox**  
**Posting a story for**

<p>Problems with the words "Belief" and "Theory" as used in science Distinguish facts and data from interpretation and opinion! Problems with, "My friend saw it." "My friend told me." A day "At the Zoo" video. <b>Best and worst things that science has done for us and to us Discussion</b> Can Science be spiritual? Does it ruin the appreciation of beauty? "Pale Blue Dot." Sagan Series #2 How to get the most out of studying. Video #2 of 5. <a href="#">Quiz - good and bad science, good and bad news</a> <b>Star Party! September 6.</b></p>	<p><b>evaluation T or F</b>  <b>(Reviews due by next Tue)</b></p>
<p><b>Week 3 What is Pseudoscience? Science and Democracy.</b> <b>Sept. 10 Literacy and Numeracy. Numbers and Estimation.</b> Read "Born to be Conned" in class  Discuss students True or False stories Logical Fallacies <b>Discussion</b> (pass out in class) <b>Week 3 Best Pseudoscience.ppt</b> Best Bad Websites.doc Numbers and Estimation. If you run for Governor... Fraud in Science. Autism. Cold Fusion. Measure the height of Gamow Tower (<b>Outdoor Activity</b>) <b>Week 3 Rewriting History.ppt</b> How to get the most out of studying. Video #3 of 5.</p>	<p><a href="#">1984: Chapters 4-6.</a>  <b>Discuss Winston's Job</b> <b>Does a gun at home make you safer?</b> <b>Should you be afraid of terrorism?</b>  <b>Discuss Polio with grandparents</b></p>
<p><b>Week 4 Numbers ...continued... Trends in War, Crime, Lifespan, and Human Rights</b> <b>Sept. 17</b> A cosmic year <b>Week 4 Scales</b>  Discuss <b>Building height</b> -scientific measurements, systematic and random errors. The history of the Earth  The history of civilization - Sargon, Hammerabi, Asunaisapal and Asurbanipal. Egypt. Babylon. Changes in War, Lifespan, Human Rights: <b>Week 4 Literacy and Numeracy</b> Guns, safety, and college students. Veterans and suicide. Born to be Conned - Thinking Fast and Slow - Emotion vs. logic (Guns) Discuss Gun Articles re "Conned". <b>Discuss College Students and Suicide</b> How to get the most out of studying. Video #4 of 5.</p>	<p><a href="#">Pt.1)</a>  <b>Watch All The President's Men</b>  <b>More Guns Do Not Make Us Safe (but feel good?)</b> <b>The Oldest Civilizations (Mesopotamia)</b></p>
<p><b>Week 5 Summarize the characteristics of different media sources.</b> <b>Sept. 24</b> Establish criteria. Are facts/reporting distinguished from opinion/interpretation? False "facts;" biased opinions. Everyone is entitled to their own opinions not their own facts Are all opinions of equal value? Fox News. ABC News. PBS News. (public broadcasting) NPR (public radio) NY Times. BBC News. Who can help you fact check? Factcheck.org. Politifact. AAAS. NAS. Snopes.com. Ombudsman mediabiasfactcheck.com sciencebasedmedicine.org How to get the most out of studying. Video #5 of 5. What are the AAAS (American Association for the Advancement of Science.) and NAS (National Academy of Sciences) Sean Hannity Erased...</p>	<p><a href="#">1984: Part 2. Chapters 1-3</a> <a href="#">Lies My Teacher Told Me 1: Why Schools Try and Keep You From Thinking</a> <b>Checking Media Bias and Accuracy</b></p>

<p><b>Week 6</b> <b>Some Practice: Supreme Court Nominee. The Psychology of Belief and Bias</b></p> <p><b>Oct. 1</b> <b>Link to Chinese face recognition video.</b> Discuss 1984 and privacy.  5 articles why not to trust Dr. Blasie Ford. NY Times article  Framing: Lakoff radical feminist, liberal democrat, Republicans smarter  Predictably Irrational: The Hidden Forces That Shape Our Decisions  Thinking Fast and Slow.  The science of why people don't believe science (post)  Play the "Factitious" website - <b>on my laptop in class</b>  <b>NY Times Article on How to Write Well - Rubric for papers in this class</b></p>	<p>1984: Part 2, Chapters 4-6.  Lies My Teacher...2: The  Problem with Heroification</p>
<p><b>Week 7</b> <b>Midterm Paper (Class time devoted to researching and writing.)</b></p> <p><b>Oct. 8</b> Research and write a short, interesting article based on your investigation of a topic that has both real and fake news elements, in <b>News Article format.</b>  Possible topics: Are vaccines good or bad? What's going on in Hong Kong?  How big a problem are school shootings? Are some fakes?   Choose two or three media sources and characterize them, what differs between them?  Or a topic of your own choosing.  <b>Week 7 How governments keep you from getting honest news</b>  Killing Journalists - Russia, Saudi Arabia  Intimidation at Trump Rallies  "Character Assassination" - personal attacks Dr. Blaise Ford, Climate Scientists  World Press Freedom Ranking  <b>Week7Pseudoscience</b>  <b>Quiz - How do governments keep you from getting accurate news?</b></p>	<p>1984: Part 2, Chapters 7-9.</p> <p>There are articles on possible topics on Canvas.</p> <p>Vaccines; Hong Kong School shootings</p> <p><b>Hong Kong Activist - Messi</b>  <b>Hong Kong's Missing Booksellers</b>  <b>Jeff Flake Flaked Video</b></p>
<p><b>Week 8</b> <b>"Pseudosciences" Astrology and Astronomy. Aliens and UFOs. Did we really go to the moon? Is the earth flat? Psychics, Faith Healing, Crystals, Crop Circles.</b></p> <p><b>Oct. 15</b> <b>Week8Pseudoscience</b>  Relativity - you can't go faster than light.  My UFO at Griffith Planetarium. The "Mythbusters" - They faked the moon landing.  Seeing is Believing. How accurate are people's observations? Basketball/other video.  Mexican Air Force UFO.  Clicker question on ESP.  "De-bunking" takes time!  The Amazing Randi and his million dollar challenge. Randi Video.  Standards of "truth" in medicine and alternative medicine.</p>	<p>1984: Part 3, Chapters 1-3  Lies: Thanksgiving  ?s about the readings  <b>God's Frequency is 39MHz</b>  <b>How to be a Psychic</b>  <b>Deconstructing the Dead</b>  <b>Cosmic Apollo Hoax</b>  <b>Bad Astronomer Reply</b>  <b>Smart People Believe</b>  <b>Weird Things</b></p>
<p><b>Week 9</b> <b>Real Science - Discoveries about the Earth and Universe - how do we know?</b></p> <p><b>Oct. 22</b> Relative and absolute ages. Tree rings. Sediments. Fossils.  Radiometric dating. Carbon 14. Uranium.  Plate tectonics.  How did the earth and other planets form?  How stars shine. Ages of stars.   Our galaxy and stars of different ages.  The Doppler shift.</p>	<p><b>Our Feel Good War on Breast Cancer</b>  <b>Five Myths - Garbology</b></p>

Hubble's discoveries and the age of the universe.

Ages of the oldest stars vs. the age of the universe. The importance of different lines of investigation agreeing - corroborating evidence. (Not just for scientists!)  
Science can produce surprising results!

"5 Things we know to be true"

**Week 10 Beyond "What Happened" to "Why." Understanding; background; context.**

1984: Part 2, Chapters 9-10

**Oct. 29** Brett Kavanaugh Supreme Court hearings

What Should Women Do?

How those who oppose activists try and defeat and discourage them -

More character assassination - ad hominem

How those in power try and defeat activists

How Did the Holocaust Happen?

**Week 9 (Rename it)**

**Borrow books and magazines to look for final paper topics.**

1984: What are the dangers of people becoming rich and educated?

How does The Party prevent that from happening? (p. 191)

How do governments prevent that from happening today?

**Brett Kavanaugh Loves Beer Fury... Women Need To...**

Find an example of ad homine attacks in recent news

**We Can't Let Boys be Boys**

**Why I took my daughter to Auschwitz**

**The Cruelty is the Point**

**Week 11 Example of Good Journalism: The Post (Movie)**

1984: Part 3, Chapters 1-2.

**Nov. 5** Some class time devoted to researching and discussing final paper

Lies: Vietnam War

Have a topic for final paper (article) by Week's end

**Week 12 Points of View and the Suppression of Points of View**

1984: Part 3, Chapters 3-4.

**Nov. 12** What is a liberal arts education?

Threatening journalists Barring them from Press Conferences (Trump rally) beating (China) or Killing Journalists (Saudi Arabia)

Example of the Parkland HS students and gun control

<https://www.snopes.com/fact-check/david-hogg-attend-california-high-school/>

Re-read ""Why **Press Freedom** is important

Quiz on Why Press Freedom is important (with and without article?)

How does our background affect our views and interpretation?

A southern view of the Civil War.

Lies: Opportunity

**"False Flag" from Right Wing to Fox Mainstream**

How were Parkland students "False flagged?"

**Krugman - Just Lie**

**Week 13 FALL BREAK**

**Nov. 19**

**Week 14 More about Points of View**

1984: Part 3, Chapters 5-6. (the end)

**Nov. 26** Black and White Views of racism

A southern view of the Civil War.

Debate "affirmative action" for minorities, football players, and legacies

Lies: Race

**Reading from my 13 wars..**

**T'Neisi Coates:**

**Should have OUTLINE of final paper - have DD review**

**Readings from people with different backgrounds.**

**"The Justice Motive" p.7**

*the Skeptic*

**Week 15 Who is out to fool you and why? Evolution. Climate Change.**

<p><b>Dec. 3</b> What is evolution - how does it work?  Fossils. Genetics.  PHeT Applet "Natural Selection"  The Scopes trial. Kansas and other states: "It's just a theory." (Supreme Court brief+ruling    "Creation Science. " (Why "science?") The Creation Museum.  What are people afraid of? What is the evidence that science hurts morality?  Fake "Origin of Species" copies being handed out at the UMC.    Climate and weather - don't mix them up!  The greenhouse effect, on a car and on our planet.  First evidence of global climate change.  How much evidence it took to convince scientists.    Real scientific meetings - AGU.  Fake scientific meetings - The Heritage Foundation.    Merchants of Doubt. Smoking. Cherry picking. Character attacks.    Work on final paper</p>	<p>"clicker ?" we are from ape</p> <p><b>Nova: Dawn of Humanity</b>  <b>Answers in Genesis?</b></p> <p><b>Big News on Homo Naledi?</b>  "Tame a Fox, Build a Dog"  <b>Good and Bad Climate</b>  <b>Quizzes 1-6</b>  <b>"Answers to Climate</b>  <b>Contrarian Nonsense"</b>  <b>scientists: top 10 skeptic</b>  <b>claims</b></p> <p><b>"How to Break the Climate</b>  <b>Deadlock"</b></p> <p>Role-playing using the web-  site written by climate  scientists</p>
<p><b>Week 16</b> <b>Who is out to fool you and why? Alternative Medicine. Autism. Homeopathy.</b>  <b>Dec. 10</b> <b>Genetically modified food.</b>  <b>What Can YOU Do to encourage truth and beneficial change?!</b>  What medicines does the government test for safety and efficacy?  What is a "successful" medicine?  How does alternative medicine determine success?    How does regular medicine determine success? Repeatability.  Class Discussion - How to find real, not fake, news AND understand it  A Young Activists Guide  <b>Final Paper</b>  "Storm" by Tim Minchen (YouTube)</p> <p><u>If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. (303-492-8671, Willard 322, www.Colorado.EDU</u></p> <p><u><a href="http://www.colorado.edu/policies/fac_relig.html">If you have a conflict with any class activities due to religious or other reasons, please tell us well in advance. Last minute requests cannot be accommodated. Plan ahead! See full details about religious holidays at http://www.colorado.edu/policies/fac_relig.html</a></u></p>	<p>Frontline - Homeopathy  get this!  New article on placebo effect</p> <p><b>Russia Infektion</b></p> <p><b>Young Activists Guide</b></p>

I expect you to follow the University's Honor Code. Because this class is so participatory, and not so "exam-based", a reasonable effort on your part throughout the term will lead to a passing grade, whether or not you think you are "good" at science, and you will know well before the final how you are doing. You should not be nervous at finals time in this class! However, cheating is the one sure way to fail.

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at [http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

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"Autism article"

"Autism article by doctor  
with autistic child."

"Are Engineered Foods Evil?"