

**Class Information:**

MW 2:30-3:50pm

Chemistry and Computer Science Bldg., Ground Level, Room G.0706A

**Instructors Information:**Instructor: **Dr. Tom McCabe**Email: [tmmccabe@utep.edu](mailto:tmmccabe@utep.edu)\*Email is the best way to contact me. Please allow 48 hours for me to respond, then send a *polite* reminder.\*

Office: B.226 Biology Building

Hours: M: 1-2pm

**Course Description:**

The course will help you organize, retrieve, and connect information the way expert researchers do. Students in this section will be introduced to research foundations applicable to many disciplines through the gateway of science in society. Through workshops, collaborative and individual work you will learn and practice common elements of the research cycle, from idea to dissemination, including: review of primary versus secondary literature and analysis of the connectivity between various STEM disciplines; the use of university resources for information access, online bibliographic management and student assistance; proper methods to maintain a research notebook and organize research documentation; safe and responsible conduct of research, including biosafety and the use of human and animal subjects in research; formats for data presentation and methods of analysis; communicating research results to various audiences, orally and in writing; and possible career paths for individuals with STEM degrees. Students will participate in a final project to gain understanding of the components of launching scientific research.

**Overall Course Goals:****Overarching Goal:** Science & Society (understanding how science works to benefit the real world)

- Integrate and apply aspects of the scientific process to examine issues relevant to the local and scientific communities
- Design and conduct a small-scale investigation that reflects the interdisciplinary and collaborative nature of the scientific enterprise
- Read and interpret scientific literature, including both primary and secondary sources
- Generate and present written and oral deliverables that communicate science to both disciplinary and layperson audiences
- Describe and implement core ethics/responsible conduct in research (RCR) principles throughout all aspects of the scientific process

**Grading Scale:**

90 – 100 = A

80 – 89.9 = B

70 – 79.9 = C **Note:** Students need to obtain a grade of C or better to pass this class.

60 – 69.9 = D

Below 60 = F

The final day to withdraw from this class is **November 1**. No requests for a withdrawal will be approved after that date. Students can always petition the Registrar for a complete withdrawal from the course pending documentation.

### **Course Evaluation:**

Homework	25%
Attendance & Group Presentations	30%
Proposal Paper	20%
Proposal Presentation and Pitch	25%

**Homework:** Homework assignments for readings and analysis will be issued in class. In addition, students will be expected to be able to provide thoughtful commentary and discussion in class regarding the content of the assigned reading.

**Group Presentations:** In-class activities involving groups may be collected at the end of class for evaluation and feedback. These assignments require that you attend class in order to receive credit.

**Proposal Paper and Presentation:** The course will culminate in a research project developed by the students with the goal of choosing a research question, developing a hypothesis, researching the topic and presenting the project effectively.

### ***Paper details:***

- One group written report
  - Follow the provided writing rubric for style and format (worth 10%)
  - Introduction (30%)
  - Materials and Methods (30%)
  - Predicted Outcome and Impacts (20%)
  - References (10%)
- A rubric will be provided to you detailing what each section must contain
- The topic must be an approved interdisciplinary topic or approach to answering a research question

### ***Presentation details:***

- Group presentation (~3 students per group)
- Each group will present an elevator pitch for approval and feedback (20% of your final presentation grade)
- Each group will present a final proposal presentation (80% of your final presentation grade)
  - Each student in the group will be responsible for crafting two slides in the presentation and have 2 minutes to present their slides.
  - Each slide should flow into the next to create a unified presentation that presents background information, the hypothesis, and how you propose to achieve that goal (study design).
- **Slide content (50%)** – Information, presentation parts, readability, content that adds content to the presenter's speech rather than copies what the speaker says
- **Presentation "flow" (10%)** – members show preparation and practice, slide format is consistent, transitions between speakers is smooth
- **Time adherence and group attendance (10%)**
- **Ability of members to answer questions (10%)**

## **Policies:**

**Safe Space:** This class will be treated as a safe space, where each student will feel comfortable sharing ideas. To that end we will follow a “golden rule” format. Treat each other as you would like to be treated during class discussions. Disagreement is both accepted and highly encouraged, however we must remember that while respectful discussion is often fruitful, insults and badgering are not and will not be tolerated.

**Absences:** After 3 unexcused absences you will be given a warning. If absent 4 times, you may be dropped from the course.

**Tardiness:** If you are late 10 or more minutes for class, points will be subtracted from your daily attendance score.

**Missed Assignments:** Quizzes and in-class assignments cannot be made up unless you provide a valid written excuse from your doctor, the funeral home director, or legal or law enforcement personnel. The written excuse must contain contact information that can be used to verify the excuse.

**Deadlines:** Work will not be accepted after a given due date unless you provide a valid written excuse from your doctor, the funeral home director, or legal or law enforcement personnel. The written excuse must contain contact information that can be used to verify the excuse.

## **Student Conduct:**

### ***Class Environment***

Cell phones must be placed in Do Not Disturb/Manners Mode. Use of cell phones for personal business rather than class work may result in points docked from your attendance score for that day. Each student is responsible for notice of and compliance with the provisions of the Regents [Rules and Regulations](#), which are available for inspection electronically at <http://www.utsystem.edu/bor/rules/homepage.htm>. Use of laptops and tablets are allowed only when specifically requested by the instructor.

**No liquids or food are allowed in the classroom. Please leave your beverages/food outside the room.**

### ***Academic Dishonesty***

It is the official policy of the University that all suspected cases or acts of alleged scholastic dishonesty must be referred to the Dean of Students for investigation and appropriate disposition. It is contrary to University policy for a faculty member to assign a disciplinary grade such as an "F" or zero to an assignment, test, examination, or other course work as a sanction for admitted or suspected scholastic dishonesty in lieu of normally charging the student through the Dean of Students. Similarly, students are prohibited from proposing and/or entering into an arrangement with a faculty member to receive a grade of "F" or any reduced grade in lieu of being charged with scholastic dishonesty. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, and the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

### ***Plagiarism***

"Plagiarism" means the appropriation of another person's ideas, processes, results, or words without giving appropriate credit. This includes intentionally, knowingly or carelessly, presenting the work of another as one's own; failing to credit sources used in a work product; attempting to receive credit for work performed by another; failing to cite the World Wide Web, databases and other electronic resources. Written work will be checked for plagiarism.

### ***Students with Disabilities Policy***

If you have or suspect a disability and need an accommodation you should contact Center for Accommodations and Support (CASS) at 747-5148 or at [dss@utep.edu](mailto:dss@utep.edu) or go to Room 106 Union East Building.

## ***Syllabus Change Policy***

This syllabus is a guide for the course and is subject to change with advance notice.

<b>Week</b>	<b>Date</b>	<b>Session</b>	<b>Topic</b>	<b>Assignments</b>
<b>1</b>	Aug 26	M	Syllabus, Introductions, Science Identity	Blackboard exercise: "Getting to know you." (Due Wednesday before 5pm ONLINE).
	Aug 28	W	Course how-to, the process of science	
<b>2</b>	Sep 2	M	<b>NO CLASS—LABOR DAY</b>	
	Sep 4	W	Science and Society, How do we evaluate science?	"Science in Your Feed Assignment" (Due before next session ONLINE)
<b>3</b>	Sep 9	M	Course focus discussion and vote, Group Selection, Searching the literature	Read paper selected during class, "Evaluating Primary Literature" (Due before next session ONLINE)
	Sep 11	W	How to read primary literature	"Re-Evaluating Primary Literature" (Due before next session ONLINE)
<b>4</b>	Sep 16	M	Building a library of scientific literature, Assign papers to group members, Citation format and purpose	"Primary Source Dissection Worksheet" (Complete and bring to next session) "5-Paper Bibliography" (Due before next session ONLINE)
	Sep 18	W	WORKSHOP DAY: Interpreting the papers you selected	"Primary Source Dissection Worksheet Revision" (Due before next session ONLINE)
<b>5</b>	Sep 23	M	Paraphrasing and summarizing the literature, Summary writing activity	"Annotated Bibliography" (Due before next session ONLINE, HAVE AVAILABLE FOR NEXT SESSION)
	Sep 25	W	'Synthetic Review': summarizing a library of information, peer review of annotated bibliographies	"Annotate Bibliography Revision" (Due before next session ONLINE)
<b>6</b>	Sep 30	M	Developing a whole group synthesis, the 'elevator pitch'	"Elevator Pitch" *PRACTICE BEFORE NEXT SETION*
	Oct 2	W	Elevator Pitches, peer review	
<b>7</b>	Oct 7	M	Elevator Pitches, peer review	
	Oct 11	W	Developing scientific questions, the challenge of 'testability	"Preliminary Group Research Questions" (Due before next session ONLINE, HAVE AVAILABLE FOR NEXT SESSION)
<b>8</b>	Oct 14	M	Presenting research questions to class and peer review	
	Oct 16	W	Presenting research questions to class and peer review (continued), Research considerations, ethics, practicality, funding, etc.	

<b>9</b>	Oct 21	M	Research considerations, ethics, practicality, funding, etc. continued)	“Finalized Group Research Question” Due before next session ONLINE
	Oct 23	W	Writing the Introduction: combining your literature review and research question	
<b>10</b>	Oct 28	M	WORKSHOP DAY: Developing your Introduction	“Preliminary Introduction” Due before next session ONLINE
	Oct 30	W	Experimental Design	
<b>11</b>	Nov 4	M	Quantitative Reasoning	“Individual Experimental Design” (Due before next session ONLINE, HAVE AVAILABLE FOR NEXT SESSION)
	Nov 6	W	Construct a group storyboard for experiment	“Group Experimental Design Storyboard and Worksheet” (Due before next session ONLINE, HAVE AVAILABLE FOR NEXT SESSION)
<b>12</b>	Nov 11	M	Peer review of Group Experimental Design	
	Nov 13	W	Writing the Methods section	
<b>13</b>	Nov 18	M	WORKSHOP DAY: Developing your Methods	
	Nov 20	W	Presenting a visual argument: constructing visual aids	
<b>14</b>	Nov 25	M	Tying it all together, making a case for your science	
	Nov 27	W	Prepare for Shark Tank Workshop time for final paper	Round 1 Presentations due BEFORE next session
<b>15</b>	Dec 2	M	SHARK TANK DAY 1	Round 2 Presentations due BEFORE next session “Self and Group Evaluation” Due in Class from presenting teams
	Dec 4	W	SHARK TANK DAY 2	“Self and Group Evaluation” Due in Class from presenting teams
<b>16</b>	Dec 9	M	FINALS WEEK <b><u>1:00-3:45pm</u></b>	<b><u>FINAL PAPERS DUE</u></b> <b><u>Wednesday, December 11<sup>th</sup> 11:59pm</u></b>  Opportunity for extra credit: participation in a focus group OR a reflection essay on science, society, and you.