

# TECM 4700-001: Writing in the Sciences

## Instructor Information

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*Office hours:* Mondays and Wednesdays, 12:00pm-1:30pm or by appointment

Communication is essential to your success in this course. Connect with me via email for quick questions. If you contact me and do not receive a response within two business days, send a follow-up email. Please note I do not respond to Teams or Canvas messages.

Stop by office hours or schedule an appointment with me if you need clarification or feedback on an assignment or have another class-related issue you would like to discuss. Appointments outside of office hours will need to be requested at least two days in advance in most circumstances.

## Course Information

### Description

Intensive investigation of the genres of writing in the sciences. Applying appropriate structures for reporting general information and specific data for a variety of scientific contexts.

Prerequisite(s): TECM 2700.

### Structure

This is an in-person, 16-week synchronous course. There are 16 weeks of content that you will move through. Course materials will be available on Canvas.

### Objectives

By the end of this course, you should be able to:

- Analyze conventions of scientific writing across genres, from peer-reviewed publications to public-facing communications.
- Create scientific communications that translate complex research for diverse audiences and stakeholder groups.
- Evaluate the societal implications of scientific communication in fostering public dialogue and informed decision-making.
- Design multimodal scientific content that engages public audiences while maintaining scientific accuracy and credibility.

## Required Materials

*Writing the in the Sciences: Exploring Conventions of Scientific Discourse* (3<sup>rd</sup> edition) by A. Penrose and S. Katz

*Note:* This is the open access version of this textbook, meaning you can download the PDF version for free.

Any other required or supplemental materials will be available on Canvas.

## Technology Requirements

This course has digital components. To fully participate in this class, students will need internet access to reference content on the Canvas Learning Management System. If circumstances change, you will be informed of other technical needs to access course content. Information on how to be successful in a digital learning environment can be found at [Learn Anywhere](#).

## Major Assignments

### *Biosketch (10%)*

Create a professional scientific biography following NIH/NSF format that highlights your education, research experience, and expertise for funding agencies and collaborators.

### *Article analysis (10%)*

Select and analyze a research article from your field, examining its rhetorical strategies, organizational structure, and effectiveness in communicating to its intended audience.

### *Midterm (10%)*

Demonstrate understanding of scientific communication principles through short answer and analysis questions covering course content from Weeks 1-7.

### *White paper (20%)*

Research and write a clear, evidence-based report that effectively communicates a complex scientific topic to non-specialist audiences with appropriate recommendations.

### *Poster Presentation (15%)*

Create a poster based on the content from your white paper. Summarize the research topic, problem, and proposed solution for a non-specialist audience.

### *Digital campaign (20%)*

Develop a comprehensive digital communication strategy that translates your white paper topic across multiple platforms (social media, web, video) for public engagement.

### *In-class activities (15%)*

Complete weekly activities related to course concepts during class time.

### **Assessment**

The grading criteria below serve as general guidelines for evaluating all assignments. Assignment-specific rubrics will be available on Canvas.

#### *A (90-100%)*

A manager would be very impressed and would remember the work when a promotion is discussed. In this course, that means work that is a pleasure to read, with excellent content, grammar, sentence structure, mechanics, and visual design. In addition, work is thorough, complete, coherent, well organized, supported sufficiently, and demonstrates a superior understanding of audience, purpose, and rationale.

#### *B (80-89%)*

A manager would be satisfied with the job, but not especially impressed. This means that documents are well written and well produced and demonstrate a substantial addition to the learning process. Work is sufficiently developed, organized, and supported, and demonstrates a solid understanding of audience, purpose, and rationale.

#### *C (70-79%)*

A manager would be disappointed and ask you to revise or rewrite sections before allowing clients and others to see the work. In other words, the document may have clear, but underdeveloped ideas, or it might not engage or affect the reader. The documents may contain some errors in grammar, mechanics, or logic.

#### *D (60-69%)*

A manager would be troubled by the poor quality of work. This level of work forces the reader to work too hard to understand the main ideas. The documents may contain incomplete information, have serious grammar and mechanical problems, lack clear organization, or be conceptually unclear.

#### *F (0-59%)*

A manager would start looking for someone to replace you. In particular, work fails to address the tasks of the assignment, is so underdeveloped as to demonstrate

incompetence, and is mechanically and grammatically incomprehensible. This grade will also be assigned for any evidence of plagiarism.

## Course Policies

### Attendance and Participation

You are required to attend and participate in class. This means being both physically and mentally present. If you are not participating (on your phone, laptop, or doing other activities unrelated to class), you will receive a warning and will be marked absent if it happens again.

You are allowed to have three absences without a penalty. Each absence beyond the first three will result in a loss of a letter grade. There is no distinction between excused and unexcused absences except those that fall under the UNT Student Attendance and Authorized Absences Policy (UNT Policy 06.039). Documentation concerning illness or extenuating circumstances that exceed 5 consecutive days should be provided directly to the Dean of Students' Office for consideration.

### Tardiness and Early Dismissals

If you are not seated at the start of class, you will be considered late. For every third time you are late, you will receive an absence towards your total. If you are more than 10 minutes late or leave more than 10 minutes without prior approval, you will be marked absent for the day.

### Assignment Submissions

All assignments in this class will be submitted via Canvas. If you have any technical issues with assignment submission through Canvas, email me with the assignment materials as soon as possible to avoid late penalties.

### Late Work

Class activities will not be accepted late and cannot be completed if you are absent from the day they are assigned. Major assignments may be submitted late with a 10-point deduction per 24 hours past the original deadline. Requests for extensions without penalty must be submitted via email at least 48 hours before the assignment is due.

### AI Tools

Generative AI (e.g. ChatGPT, Claude, Gemini) may be used for brainstorming and idea generation in the initial planning of an assignment. However, it may not be used to write, revise, paraphrase, edit, or generate any portion of submitted work, nor to locate, summarize, or cite sources.

If using generative AI for ideation, students must provide an AI disclosure statement, citation, and AI prompt and output documentation. Misuse is considered cheating under the UNT Student Academic Integrity Policy (UNT Policy 6.003).

Templates from programs such as Microsoft Word are also prohibited for all assignments.

## Grade Disputes

You are required to wait 24 hours before contacting me to dispute a grade. Within that time, I expect that you will review the assignment details and reflect on the quality of the work you turned in. If you would still like to meet, email me to set up a meeting (I cannot discuss grades over email). You should come to our scheduled meeting with specific examples that demonstrate that you earned a higher grade than you received. If you miss your scheduled meeting, you forfeit your right to a grade dispute. If you do not contact me to schedule a meeting within seven days of receiving your grade, you also forfeit your right to a grade dispute.

## University Policies

### ADA Accommodations

The University of North Texas makes reasonable accommodation for students with disabilities. Students needing a reasonable academic accommodations must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the student will request their letter of accommodation. ODA will provide faculty with a reasonable accommodation letter via email to begin a private discussion regarding a student's specific needs in a course.

Students may request reasonable accommodations at any time, however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class.

Students are strongly encouraged to meet with faculty regarding their accommodations during office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to [the Office of Disability Access website](#).

### Other Academic Success Resources

To explore campus resources designed to support you, check out [UNT's student support services and policies](#), find support through [Succeed at UNT](#), and take a moment to [learn about types of wellness](#). You can also visit [Scrappy Says](#) to find information about enrollment, student records, student accounts, and financial aid.

### Academic Integrity

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty

may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

### Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's [Code of Student Conduct](#) to learn more.

### Prohibition of Discrimination, Harassment, and Retaliation

The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

### Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

## Semester Schedule

Readings should be completed before the day of class they are assigned unless otherwise instructed. Major assignments are due on Sundays. Class activities are due the day they are assigned. Topics, readings, and assignment deadlines are tentative and subject to change.

Week	Topic	Date	Readings	Assignments
1	Purpose of Science Communication; Biosketch	1/12	P&K, Ch. 1 (p. 2-18)	
		1/14		
2	Technological Affordances; Biosketches	1/19	<i>MLK Holiday (no class)</i>	
		1/21	P&K, Ch. 2 (p. 21-32); Biosketches: NIH; Biosketch Checklist	
3	Ethical Considerations	1/26	P&K, Ch. 3 (p. 44-58); Upholding Scientific Integrity	
		1/28		Activity 1: Biosketch Peer Review; Biosketch (Personal Statement)
4	Analyzing Articles; Article Analysis	2/2	P&K, Ch. 4 (p. 74-89)	Activity 2: Research Introductions
		2/4	UNT Subject and Course Guides	Activity 3: Article Search Results
5	Research Reports	2/9	P&K, Ch. 4 (p. 89-103)	
		2/11	Qualifiers	Activity 4: Article Selection
6	Literature Reviews	2/16	P&K, Ch. 5 (p. 107-122)	Activity 5: Backwards and Forwards
		2/18		Activity 6: Article Analysis Peer Review; Article Analysis
7	Public Audiences	2/23	P&K, Ch. 7 (p. 143-160)	Activity 7: Grant Proposals
		2/25		
8	Review	3/2		
		3/4		Midterm

<b>Spring Break (no class)</b>				
<b>9</b>	Digital Communication; White Paper	3/16	P&K, Ch. 8 (p. 162-178)	
		3/18		Activity 8: Public Science Examples
<b>10</b>	Writing White Papers	3/23	White Papers	
		3/25	Optional: Writing White Papers	Activity 9: Mini Annotated Bibliography
<b>11</b>	Visual Communication	3/30	P&K, Ch. 2 (p. 32-42)	
		4/1	Figures and Charts	Activity 10: White Paper Peer Review; White Paper
<b>12</b>	Conference Presentations; Poster Presentation	4/6	P&K, Ch. 6 (p. 123-139)	Activity 11: Poster Problems
		4/8	Creating an Academic Poster; Powerpoint Poster Guide	Activity 12: Poster Planning; Poster Presentation
<b>13</b>	Campaign Strategies; Digital Campaign	4/13		
		4/15		Activity 13: Digital Campaign Work Plan
<b>14</b>	Team Conferences	4/20		Activity 14: Team Conferences
		4/22		
<b>15</b>	Review	4/27		
		4/29	<i>Last day of class</i>	Activity 15: Digital Campaign Peer Review
<b>16</b>	Finals Week	5/4		Digital Campaign