

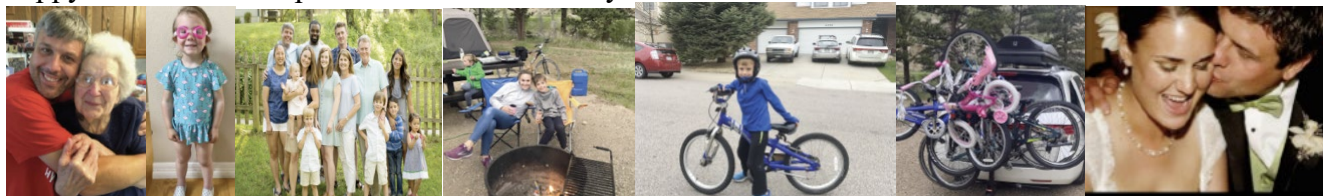
SCI – 291, Scientific Writing Common Syllabus
Fall, 2024
3 credit hours

Prerequisite: ENG 122 or SAT Verbal with a minimum score of 630 or ACT English with a minimum score of 30, or SAT Reading Test with a minimum score of 34.

Instructor Name: [insert your information here]

Instructor Contact Information: [insert your information here]

Meet your instructor: [EXAMPLE. REPLACE WITH YOUR INFORMATION]: Hi All! My name is Byron Straw. I grew up in a small town in Pennsylvania called Clearfield and completed my undergraduate work at Clarion University with a dual major in geology and secondary education. After working as a hydrogeologist consultant for Shell in Virginia, I transitioned to teaching geology, astronomy, meteorology, and AP environmental science at the high school level near Washington DC. My journey then took me to Oregon to teach High School (really I chased a girl out there), but eventually, I moved to Colorado and pursued graduate studies at UNC, where I now teach undergraduate and graduate courses. My research focuses on science education, glacial geomorphology, climate reconstruction, and various other geological fields. I married my wonderful and very forgiving wife in 2009, and we have three amazing children: Elliot (13), who has bravely faced and overcome challenges with Hydrocephalus, Cameron (11), and our baby girl, Matilda Grace (9). In my spare time, I enjoy hiking, camping, working on old Land Rovers, and, most importantly, making my wife happy. Here are a few pics of me and the family!



Student Hours: [insert your information here]

Course Catalog Description: Techniques of problem identification, literature survey, data interpretation and synthesis, and scientific writing skills.

Common Values: This course is taught by several instructors across various science content areas, each bringing expertise from different disciplines. All instructors share common values of integrity, rigor, and a commitment to excellence in education, ensuring that students receive a consistent and comprehensive learning experience. Learning is a journey, and mistakes are a natural part of the learning process; they provide valuable opportunities for growth and deeper understanding. Regardless of the instructor, this course is designed to equip students with essential techniques in scientific writing, which include problem identification, conducting literature surveys, and data interpretation and synthesis. Throughout the semester, students will engage in various activities that build the necessary skills to produce a well-structured synthesis of primary research.

Anchoring Assignments: Anchoring assignments are a core curriculum component designed to ensure a consistent educational experience across all course sections, irrespective of the instructor. These assignments are essential for developing key competencies central to scientific research and writing. By integrating anchoring assignments into the curriculum, students gain a comprehensive understanding and application of scientific research methodologies, preparing them for advanced studies and professional careers in science. Anchoring assignments for all sections will come from the following areas:

1. Methods and forms of scientific communication.
2. Research Problem Identification
3. Literature Search and Analysis
4. Literature Reviews
5. Citation Techniques and Avoiding Plagiarism
6. Editing and Peer Review
7. Data interpretation and Presentation
8. Technological Proficiency

Learning Objectives:

1. Development of scientific writing skills with respect to style, format, and language.
2. Ability to identify a scientific issue that is focused and needs investigation
3. Ability to conduct a literature search and discern between primary sources, reviews, and tertiary sources.
4. Ability to understand and critically analyze the components of a peer-reviewed journal article.
5. Ability to write a literature review through interpretation and synthesis of primary literature.
6. Ability to improve writing through proofreading and revision and implementation of feedback from peers and the instructor.
7. Development of presentation skills using accepted scientific formats.

Required Text/Course Materials: You won't need to purchase any textbooks for this course. All the resources you will need for the course are included in your Student Fees or are Open Access. You will need to have access to the following materials:

- Any modern computer, excluding Google Chromebooks. If you do not own one, UNC has an equipment checkout that includes checking out modern computers. Click on the following link for additional information. <https://www.unco.edu/library/services/equipment-checkout.aspx>
- Cloud-based or physical storage of 1GB or greater (included in your course fees).
- Microsoft Office Suite (included in your course fees).
- Adobe Reader (can be downloaded free). Please use this program for all portable document files within this class. Third-party viewers, such as Microsoft's PDF Reader, can produce significant problems for assignments and result in decreased grades.

Writing Center: The UNC Writing Center is here to connect you with that feedback. Writing Center Consultants are interested readers who come from a variety of majors and backgrounds, and we are ready to talk about your writing projects. Consultants are trained to work with writing of all types, from all disciplines, and at all levels. We welcome all sessions, whether you're just getting started or are ready to hand in your final draft. You're the content expert; we're the writing experts. Let's work together! Schedule your in-person, video, or email session today by visiting: <http://www.unco.edu/writing-center>

Grades: This course utilizes a letter grading scale with a +/- system to evaluate student performance. Click [here](#) for detailed information. Grades will not be curved. Each student's performance will be assessed based on their individual achievements and mastery of the material, as outlined in the syllabus. The goal is to ensure

fairness and consistency in evaluating your work. If you have any concerns about your progress, please seek help early to improve your understanding and performance. General information can be found below:

Weighted percentages:

Homework assignments, quizzes, and modules	35%
Final literature review	40%
Scientific poster and presentation	25%

Homework assignments: This class includes a variety of assignments in different formats. Some will require you to complete a module, take a quiz, or upload a specific assignment to Canvas, while others will involve peer reviewing a classmate's work. Please follow the instructions for each assignment carefully.

Quizzes: Quizzes in this course are designed to assess your understanding of the material and reinforce key concepts. Be sure to complete quizzes by the due date, and if you have any questions or need clarification, ask before taking the quiz.

Extra Credit: No extra credit assignments will be offered in this course. Grades will be based solely on the completion and quality of regular coursework, including exams, quizzes, assignments, and participation. s on meeting the assigned work requirements to achieve their desired grades. If you have concerns about your performance, please reach out for guidance or assistance early in the semester.

Weekly announcements, instructions, lectures, and assignments: These can be found on Canvas. Information for each week generally opens on Monday and closes on Sunday of the same week. Since many assignments build on one another, completing each task is important before moving on to the next. If you find yourself falling behind, contact your instructor immediately to develop a plan for your success. Remember to check Canvas at the beginning of each week for assignments and due dates. Some due dates fall in the middle of the week, and some weeks may require more time to complete than others. Make sure to check Canvas for details at the beginning of the week. Most assignment submissions are typically graded, and comments are posted within 5-7 days.

Course Policies: Learning is not easy. Learning amid climate change, increasing natural disasters, mass shootings, political and social upheaval, and civil rights movements can sometimes seem impossible. I understand there may be days/hours/moments where you do not feel like learning or engaging in class. I hope that you can find the courage to communicate this with me. We are committed to providing a learning experience that is inclusive, flexible, and meaningful. Please commit to prioritizing your well-being asking for help and accommodations to support your learning. This class follows UNC's policies outlined in the [Student Code of Conduct](#). If you have a circumstance that requires a policy modification, please try to inform us before the change is needed. We are generally willing to accommodate your needs but reserve the right to deny eccentric requests. Again, we are here to support and help you, not just through the easy times!

Attendance: Regular class attendance is assumed. If you have an issue or emergency and are going to miss a class, contact the instructor to discuss anything you missed during class.

Late Work Policy: To support your learning journey and accommodate the challenges that may arise, this course has a flexible late work policy designed to help you succeed without adding unnecessary stress.

Grace Period: *You may submit any assignment up to 24 hours after the original due date without needing to request an extension or provide a reason. This "no questions asked" grace period allows you to manage your time and responsibilities*

effectively. However, timely submission is encouraged to ensure you stay on track with the course material.

Extension Requests and late penalties: If you need more than 24 additional hours to complete an assignment, please reach out as soon as possible. Extensions will be considered on a case-by-case basis. It's important to communicate any challenges you are facing so that we can work together to develop a plan that supports your success. If you go beyond the 24-hour grace period without any communication, a 20% per day late penalty will be applied to all assignments.

Communication: This policy is in place to offer flexibility, but it's important to communicate with me if you find yourself falling behind. Proactive communication allows us to address any issues early and helps you complete the course successfully.

Artificial Intelligence (AI) Use: There are situations and contexts within this course where you may be asked to use AI tools (e.g., Chat GPT) to explore how they can be used in educational settings. Outside of those circumstances, you are discouraged from using AI tools to generate content (text, video, audio, images) that will end up in any work (assignments, activities, responses, etc.) that is part of your evaluation in this course. Any work submitted using AI tools should clearly indicate what work is your work and what part is generated by the AI. In such cases, no more than 25% of the work should be generated by AI. If any part of this description is confusing or uncertain, please reach out to me for a conversation before submitting your work.

How to be successful in this course: To be successful in SCI 291, it's essential to stay organized and follow the course schedule closely. Engage actively with the course materials, including weekly assignments, and use available resources like the UNC Writing Center to enhance your scientific writing skills. Additionally, communicate proactively with your instructor if you face challenges, and utilize the flexible late work policy to manage your time effectively.

Equity and Inclusion: The University of Northern Colorado (UNC) embraces the diversity of students, faculty, and staff. UNC honors the inherent dignity of each individual and welcomes their unique perspectives, behaviors, and world views. People of all races, religions, national origins, sexual orientations, ethnicities, genders and gender identities, cognitive, physical, and behavioral abilities, socioeconomic backgrounds, regions, immigrant statuses, military or veteran statuses, sizes, and/or shapes are strongly encouraged to share their rich array of perspectives and experiences. Course content and campus discussions will heighten your awareness of each other's individual and intersecting identities. For information or resources, contact the Division of Diversity, Equity, and Inclusion at 970-351-1944. If you would like to report an incident or learn more about identity-based discrimination/harassment, please visit www.unco.edu/institutional-equity-compliance

Disability Resources: Disabilities are not a reflection of your intelligence or who you are; they are a reflection of how your brain and/or body work. If you know or think that you have any learning or physical disabilities, the Disability Resource Center (DRC) can help you gain access to resources and let me know how I can best accommodate your needs.

It is the policy and practice of the University of Northern Colorado to create inclusive learning environments. If there are aspects of the instruction or design of this course that present barriers to your inclusion or to an accurate assessment of your achievement (e.g., time-limited exams, inaccessible web content, use of videos

without captions), please communicate this with your professor and contact the DRC to request accommodations. Office: (970) 351-2289, Michener Library L-80.

Additionally, if you have a temporary health condition or a permanent disability that requires accommodations, contact the Disability Resource Center (DRC) as soon as possible. DRC facilitates the interactive process that establishes reasonable accommodations. You can learn more about the accommodation process at <http://www.unco.edu/disability-resource-center/>

Name in Use/Pronoun in Use/Name Change: Some students may have changed their names to better reflect their gender identity or for other reasons. The process to request that the University change the name that appears on Canvas and on the course roster is available here: <https://www.unco.edu/registrar/name-change.aspx>

Academic Integrity: Students are expected to practice academic honesty in every aspect of this course. Students who engage in academic misconduct are subject to grading consequences with regard to this course and/or university disciplinary procedures through the Dean of Students Office. More information about the academic misconduct process can be found in UNC's Student Code of Conduct (BEAR Code).

Student Well-Being: Students often experience stressors that make it difficult for them to meet the challenges of their courses—stressors like sleep problems, financial concerns, relationship concerns, employment difficulties, feelings of anxiety, hopelessness, or depression.

- If you are struggling with this class, please visit me during student hours or contact me via e-mail.
- If you're not sure where to turn, the [website](#) for UNC's **Student Outreach and Support (SOS)** office lists a wide variety of resources for students. Case Managers in the SOS office can assist students during difficult circumstances which may include medical, mental health, personal or family crisis, and illness or injury.
- Mental health professionals are available for free, confidential consultations in the **Counseling Center**. To access staff in the Counseling Center, call 970-351-2496 or stop by the Center, located on the second floor of Cassidy Hall. If you are experiencing a crisis after-hours, call the Counseling Center and press #2 to connect with a crisis counselor.

Title IX: The University of Northern Colorado is committed to providing a safe and inclusive learning environment for all students that is free from discrimination and harassment, including sexual harassment, sexual assault, domestic violence, dating violence, and stalking. Students who have experienced (or who know someone who has experienced) any of these concerns should know that they are not alone. UNC has staff members in the University's **Office of Institutional Equity and Compliance (OIEC)** who are trained to support students in navigating these concerns and are able to provide on- and off-campus resources and supports, referrals to health and counseling services, academic and housing modifications, and mutual no-contact orders between individuals.

Please be aware all UNC instructors and most staff members are required to report their awareness of sexual misconduct to the OIEC. This means that if students tell an instructor about a situation involving sexual harassment, sexual assault, dating violence, domestic violence, or stalking, the instructor must share that information with the Title IX Coordinator and Equity Officer, Dr. Matt Ricke. Dr. Ricke or a trained staff member in OIEC will contact the reporting students to let them know about resources and support services at UNC as well as their options to pursue an investigation through OIEC, law enforcement, or both. Students who have experienced these types of incidents are not required to speak with OIEC staff regarding the incident. Students' participation in OIEC processes are entirely voluntary. If students do not want the Title IX Coordinator notified, instead of disclosing this information to the instructor, students can speak confidentially with the following people on campus and in the community. They can connect you with support services and help explore options now, or in the future. UNC has confidential victim

advocates available 24/7 by phone – students can contact the [Assault Survivors Advocacy Program \(ASAP\)](#) at 970-351-1490 to seek confidential guidance and support.

Food Insecurity and Basic Needs: Research shows that college students experience food insecurity at higher rates than the American household rate, and that food insecurity can negatively impact academic performance and persistence. In recognition of this problem, UNC offers assistance to students facing food insecurity through an on- campus food pantry. The Bear Pantry is located in University Center 2166A and is open for regular hours throughout the semester. Please visit www.unco.edu/bear-pantry for more information.

Land Acknowledgment: The University of Northern Colorado occupies the lands in the territories of the Ute, Cheyenne, and Arapaho peoples. The University acknowledges the 48 tribes that are historically tied to the state of Colorado. Thus, the land on which UNC is situated is tied to the history and culture of our native and indigenous peoples. UNC appreciates this connection and has great respect for this land. Additionally, the University community pays its respect to Elders past, present, and future, and to those who have stewarded this land throughout the generations. As part of the learning and reflection process please visit <https://native-land.ca/> or call the Office of Equity & Inclusion at 970-351-1944.

Final Exam Policy in the Event of University Closure: This course includes a capstone project, the Final Literature Review, which is due on the scheduled final exam date. In the event of a University closure, arrangements will be made for students to submit their Final Literature Review through Canvas.

Liberal Arts Curriculum & GT Pathways

This course is a part of the Liberal Arts Curriculum at UNC and fulfills three credit hours of the Written Communication category. The Colorado Commission on Higher Education has approved SCI, 291 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-CO2 category. For transferring students, successful completion with a minimum C– grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to <http://higher.ed.colorado.gov/academics/transfers/gtpathways/curriculum.html>

The Liberal Arts Curriculum Written Communication category is designed to help students develop the ability to use the English language effectively, read and listen critically, and write with thoughtfulness, clarity, coherence, and persuasiveness.

UNC’s LAC outcomes in Written Communication: Intermediate Writing are aligned with the State of Colorado’s GT Pathways student learning outcomes, competencies, and content criteria for CO2. This includes CDHE competency and student learning outcomes in Written Communication.

LAC Written Communication Learning Outcomes + GTP Competency & SLOs	Course Mapping
<p>Written Communication: Competency in written communication is a student’s ability to write and express ideas across a variety of genres and styles. Written communication abilities develop over time through layered, interactive, and continual processes and experiences across the curriculum.</p> <p>Student Learning Outcomes (SLOs)</p>	<p>1. Employ Rhetorical Knowledge</p> <p>a. Exhibit a thorough understanding of audience, purpose, genre, and context that is responsive to the situation.</p> <p>i. Anchoring Assignment Category: Methods and forms of scientific communication</p> <p>1. Students adapt scientific presentations to peers and professionals, aligning format and tone with the purpose of sharing results.</p>

Students should be able to:

1. Employ Rhetorical Knowledge

- a. **Exhibit a thorough understanding of audience, purpose, genre, and context that is responsive to the situation.**

2. Develop Content

- a. **Create and develop ideas within the context of the situation and the assigned task(s).**

3. Apply Genre and Disciplinary Conventions

- a. **Apply formal and informal conventions of writing, including organization, content, presentation, formatting, and stylistic choices, in particular forms and/or fields.**

4. Use Sources and Evidence

- a. **Critically read, evaluate, apply, and synthesize evidence and/or sources in support of a claim.**
- b. **Follow an appropriate documentation system.**

5. Control Syntax and Mechanics

- a. **Demonstrate proficiency with conventions, including spellings, grammar, mechanics, and word choice appropriate to the writing task.**

a. Assignment: Developing Posters for Presentations

ii. Anchoring Assignment Category: Literature Search and Analysis

1. Students interpret a primary article by identifying audience (scientific peers), purpose (understanding methods/results), genre (peer-reviewed article), and context (environmental science).

a. Assignment: Reading and Understanding Primary Literature

2. Students critique a scientific article with awareness of audience, purpose, genre, and context.

a. Assignment: Article analysis

2. Develop Content

a. Create and develop ideas within the context of the situation and the assigned task(s).

i. Anchoring Assignment Category: Literature Reviews

1. Students develop scholarly arguments by drafting and refining introductions, discussions, and conclusions.

a. Assignment: Literature Review

ii. Anchoring Assignment Category: Technological Proficiency

1. Students refine ideas through iterative AI-prompt cycles, testing and improving clarity, accuracy, and depth.

a. Assignment: Prompt Engineering

3. Apply Genre and Disciplinary Conventions

a. Apply formal and informal conventions of writing, including organization, content, presentation, formatting, and stylistic choices, in particular forms and/or fields.

i. Anchoring Assignment Category: Citation Techniques and Avoiding Plagiarism

1. Students apply correct citation structures and stylistic conventions using GSA formatting.

a. Assignment: Citing Literature

2. Students integrate references, tables, and figures in ways that align with scientific publishing norms.

a. Assignment: Document Layout and Common Categories

ii. Anchoring Assignment Category: Data Interpretation and Presentation

1. Students present scientific information in figures, tables, and charts that meet disciplinary expectations.

- i. Anchoring Assignment Category: Editing and Peer Review
 - 1. Students reflect on their own and peers' writing through critique and revision.
 - a. Assignment: Peer Review of Literature Review
- ii. Anchoring Assignment Category: Technological Proficiency
 - 1. Students iteratively refine AI prompts, reflecting on the role of technology in improving writing.
 - a. Assignment: Prompt Engineering
- 2. Deepen Experience in Writing
 - a. Develop recursive strategies for generating ideas, revising, editing, and proofreading for extensive, in-depth, and/or collaborative projects.
 - i. Anchoring Assignment Category: Literature Reviews
 - 1. Students draft, revise, and proofread review sections as part of a recursive writing process.
 - a. Assignment: Literature Review
 - ii. Anchoring Assignment Category: Technological Proficiency
 - 1. Students employ AI-assisted drafting to test and improve recursive writing strategies.
 - a. Assignment: Prompt Engineering
 - b. Critique one's own and other's work.
 - i. Anchoring Assignment Category: Editing and Peer Review
 - 1. Students provide feedback on peers' drafts, focusing on clarity, mechanics, and scientific accuracy.
 - a. Assignment: Peer Review of Literature Review
 - ii. Anchoring Assignment Category: Literature Search and Analysis
 - 1. Students critique the credibility, authority, and appropriateness of sources.
 - a. Assignment: Evaluating Sources
 - 3. Deepen Critical and Creative Thinking
 - a. Evaluate the relevance of context.
 - i. Anchoring Assignment Category: Literature Search and Analysis
 - 1. Students evaluate how context influences meaning and reliability in primary and secondary sources.
 - a. Assignment: Types of sources and Literature

- b. Synthesize other points of view within one's own position.
 - i. Anchoring Assignment Category: Literature Reviews
 - 1. Students synthesize scholarly sources into cohesive arguments, balancing multiple perspectives.
 - a. Assignment: Literature Review
 - c. Reflect on the implications and consequences of the stated conclusion.
 - i. Anchoring Assignment Category: Literature Reviews
 - 1. Students reflect on the implications of their findings and conclusions in the context of disciplinary scholarship.
 - a. Assignment: Literature Review
 - ii. Anchoring Assignment Category: Methods and forms of scientific communication
 - 1. Students present conclusions in ways that highlight broader scientific and societal implications.
 - a. Assignment: Posters and poster presentations
- 4. Use Sources and Evidence
 - a. Select and evaluate appropriate sources and evidence.
 - i. Anchoring Assignment Category: Literature Search and Analysis
 - 1. Students search databases to identify credible and relevant sources for scientific writing.
 - a. Assignment: searching for literature
 - 2. Students evaluate authority and accuracy of scientific literature.
 - a. Assignment: Evaluating Sources
 - b. Evaluate the relevance of sources to the research question.
 - i. Anchoring Assignment Category: Literature Search and Analysis
 - 1. Students connect selected sources explicitly to their own research questions.
 - a. Assignment: Types of sources and Literature
- 5. Deepen Application of Composing Conventions
 - a. Apply genre conventions including structure, paragraphing, tone, mechanics, syntax, and style to more extensive or in-depth writing projects.
 - i. Anchoring Assignment Category: Literature Reviews

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| | <ul style="list-style-type: none"> 1. Students apply scientific writing conventions in extended review papers. <ul style="list-style-type: none"> a. Assignment: Literature Review ii. Anchoring Assignment Category: Data Interpretation and Presentation <ul style="list-style-type: none"> 1. Students apply conventions of scientific figures, tables, and quantitative communication. <ul style="list-style-type: none"> a. Assignment: Spreadsheet applications b. Use specialized vocabulary, format, and documentation appropriately. <ul style="list-style-type: none"> i. Anchoring Assignment Category: Citation Techniques and Avoiding Plagiarism <ul style="list-style-type: none"> 1. Students employ discipline-specific terminology and follow GSA citation/documentation norms. <ul style="list-style-type: none"> a. Assignment: Citing Literature in proper style and format 2. Students demonstrate integration of references and formatting in scientific contexts. <ul style="list-style-type: none"> a. Assignment: Document layouts |
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