

Writing on Science and Society: Radical Science Writing WRTG 3030

Danny Long
TB88 C153¹



Office Hours: MWF 1-1:50 and by appointment
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Required Texts*

Almossawi, Ali. *An Illustrated Book of Bad Arguments: Learn the Lost Art of Making Sense*. New York: The Experiment, 2013.

*I will provide additional readings through D2L or email, or I will distribute them in class. Prior to beginning your tutoring for the service-learning assignment, **you are required to undergo and pay for a background check through TC LogiQ** (I will provide instructions). I recommend that you do this as soon as possible so that you can begin your tutoring early in the semester. Furthermore, you will be responsible for the cost of printing the children's book and the Shakespearean Science posters. The costs for these vary by semester, but they're usually no more than ten dollars per person per assignment.

Course Description

As a future professional in the sciences or engineering, you will be expected to write and speak clearly and convincingly to audiences not only in but also, and especially, outside your field. The purpose of this course is to provide you the opportunity to practice techniques for communicating analytically and persuasively, to further develop your creative- and critical-thinking skills, and to consider how your field relates to other fields and to the civic arena. One way you will pursue these objectives is through a service-learning project, for which you will tutor local high school students for a total of eight hours in math, the sciences, or a variety of other subjects. You will use this experience to examine the relationship among doing, teaching, and learning a field; the sociological, political, and institutional factors shaping education in math and the sciences; and the various rhetorical norms involved in scientific pedagogy and practice.

Of course, you will do more than the service-learning project this semester. Most of the material you will work with in class will be produced by you, *discipuli extraordinaria*. You will collaborate with one another, write with one another, teach one another. Count on staying busy each and every class period. Together, we will analyze the characteristics of persuasive writing about and in the sciences and education. The course will include brief units on logic and visual rhetoric. At various points in the semester we will discuss the craft of writing—e.g., writing strong, beautiful sentences that capture audiences, filling them with awe and admiration and wonder. You will complete a number of informal writing assignments. You will write two professional career documents: a personal statement and an exit message, both addressed to your service-learning partners. In groups you will write children's books for

¹ The address for TB88 is 1338 Grandview, Boulder, CO 80309

local first graders, fallacious dialogues, and posters that teach the CU campus community about Shakespearean-era science. And you will put together an annotated bibliography that will prepare you for your final project: a piece of writing that uses book arts to share research in math or the sciences with a public audience.

Course Context

University of Colorado at Boulder Core Requirement: Offered through the Program for Writing and Rhetoric, College of Arts and Sciences, WRTG 3030 fulfills the core upper-division writing requirement for students majoring in engineering and in physical and biological sciences. The course builds on skills practiced in the first-year-writing core requirement by applying an advanced understanding of rhetorical concepts to communication within specialized fields.

CCHE Requirements: WRTG 3030 meets CCHE criteria for an Advanced Writing Course (GT-CO3). Specifically, this course will extend your rhetorical knowledge, your experience in the writing process, your mastery of writing conventions, and your awareness of effective communication strategies.

Extend Rhetorical Knowledge: Rhetoric, simply put, refers to an individual's use of language, images, music, etc., to move an audience. Your awareness of how to shape words and images to present your ideas to your audience will make a critical difference in your success as a rhetor. In this class, as you analyze the different readings and the writing of colleagues in workshop, all written for different audiences with varying purposes, you'll gain insight into the various strategies different rhetors (writers, designers, speakers) employ to influence their audiences. You will also reflect on your own rhetorical practice as you explore and hone it.

Extend Experience in Writing Processes: In face-to-face workdays, you'll put rhetorical knowledge into action, working through early drafts of your papers with classmates. There, in a community of colleagues, you'll see how an audience reacts to your work, and, as you critique the work of others, you'll gain a stronger sense of audience needs. And because it's the secret ingredient to any successful piece of writing, you'll revise, revise, revise. Moreover, you'll practice effective approaches to working collaboratively.

Extend Mastery of Writing Conventions: You'll learn how audience determines the conventions you use, whether you are writing a career document, a children's book, a list of instructions, or a persuasive presentation. Instruction will focus on rhetorically informed strategies relevant to the communication needs of engineering and scientific fields, dealing with issues of style, grammar, visual design and organization in the context of larger rhetorical and argumentative concerns. Your goal will always be to create clear, dynamic writing that meets your audience's needs.

Advance Content Knowledge through Communication Strategies: This course's assignments will give you practice in adapting and designing communication strategies for diverse audiences, from first graders to high school and college students, from beginners to experts, from physics foes to aficionados. To fashion content that fulfills these audiences' needs, you will have to do a considerable

amount of research into both content and style. It is true that you will write to teach, but it is equally true that you will write to learn.

Course Methodology

1. *Attend class and arrive on time.* Because this class requires a lot of participation, you must attend. Your grading contract lists the number of absences you may not exceed without penalty. Should you exceed this limit, your final grade will drop.
2. *Participate, with rhetorical sensitivity, in both writing and speech.* Be prepared at every class meeting to discuss your classmates' work, assigned readings, or whatever else we happen to be working on that day. Through practice, you will learn appropriate norms for this type of discourse. Remember, participation reflects your mental, not just your physical, attendance; the quality of your responses, not just their existence. Be more than meat in a seat. Establish a classroom voice.
3. *Read.* Be sure to annotate all assigned readings, and bring them to class. Reading and then "remembering" what you've read will rarely be adequate for the level of analysis that we will engage in.
4. *Write.* With a few exceptions that I will point out in class, all assignments should be turned in electronically, as either a Word or a PDF file.

Assignments²

Participation (in-class assignments, discussions, workshops, etc.)
Personal Statement (1 page, single-spaced)
Service-learning Partner Memo (short email)
Children's Book (20+ pages)
Fallacious Dialogue (4 pages)
Exit Message Proposal (1 page, single-spaced)
What If . . . Project (8 pages)
Shakespearean Science Poster (Five 11"x17" posters)
Annotated Bibliography (8 pages)
Mr. Hanratty Journal (100 words per tutoring hour)
Service-learning Tutoring, All Hours Documented
Portfolio (9 pages, optional)

A Word on Feedback and Learning

Learning is a process. It is also a product: that which emerges from the purposeful convergence of several interested parties. In the context of this class, I am one of those parties, and you are the other. I want you to improve your writing—to become a more confident, more compelling rhetor than you currently are—and I will actively pursue that goal this semester. I have therefore structured this class as a workshop,

²This list may change as the semester progresses. Also, the numbers in parentheses refer to double-spaced pages unless otherwise noted.

which means I have made it possible for both your classmates and me to give you feedback on your writing regularly, often several times a week. But you are the one at the helm. If I give you feedback that you do not understand, don't sit on your confusion. Ask me questions in class, or visit me during my office hours. If you have been told, either by me or by somebody else, that you struggle with comma splices, do not hope that one day I will give a lecture on comma splices; I won't. Instead, knock on my door and say, "Danny, what's a comma splice?" or visit the Writing Center, or, just to be thorough, do both. If you are not sure whether your personal statement fulfills the requirements listed on the prompt, do not wait for me to tell you yes or no; instead, set up a meeting with me, and we'll talk. Do not tarry. Take charge of your own learning.

Revision

Sometimes I will ask you to revise a piece of writing, in which case you will need to do so to earn the grade on your contract. However, as the paragraph above states, I want you to take charge of your own learning. This means that you may revise an assignment as many times as you want. Such dedicated revision will pay off in several ways. The most important of these: it will make you a better writer. Or, to put this a different way, it will make you a better rewriter. The novelist James Michener once said, "I'm not a very good writer, but I'm an excellent rewriter." Become an excellent rewriter.

Consistent revision will also prepare you for the portfolio assignment. While the portfolio assignment is optional, you will have to complete it to earn a grade higher than the one listed on your grading contract.

"Revise, revise, revise" should be your motto. Here's a good strategy: meet with me when you want to revise so that we can work through your draft together.

Grading Guidelines

You must put forth the amount of work necessary to earn the grade listed on your contract.

Here are some general benchmarks:

Written work

- A: Consistently insightful, beautifully organized, creative; opinions are clearly stated and backed up with sufficient evidence; style is graceful and error-free.
- B: Some genuine insight here and there; opinions are mostly clearly stated and demonstrated, though there may be a place or two where more evidence or detail is needed; writing style is generally clear, though there may be minor, non-recurring grammatical issues.
- C: There may be some insight here and there, but, generally the paper consists of ideas that have already been discussed by others or are self-evident; as a general rule, the evidence lacks detail and depth; there may be recurring grammatical or stylistic issues.
- D: Only marginally meets the criteria for the assignment; lacks focus, and thus depth.

F: Formless, incoherent, or not turned in when due.

Participation

- A: Excellent participants are always prepared for class and offer their insights freely. (This does not mean they dominate class discussion; they are more rhetorically sensitive than that.) Moreover, they understand the strengths and weaknesses of the reading or text at hand, and make insightful, often original observations. In workshop, they consistently suggest ways to make the author's point clearer and/or more persuasive. As well as always being in class and turning everything in on time, they are noted as excellent critics by their classmates.
- B: Above average participants are usually prepared for class. Regularly, they offer their insights. They often understand the strengths and weaknesses of the text at hand. In workshop, they usually suggest ways to make the author's point clearer and more persuasive. They are noted as good critics by their classmates. They rarely miss class and generally turn all assignments in on time.
- C: More often than not, average participants are prepared for class. Occasionally, they will offer their insights freely, but usually they wait to be called on. These critics may have some trouble discerning the strengths and weaknesses of the text in front of them. Their contributions to workshop are unoriginal or very rare. They are noted as average critics by their classmates.
- D: Below-average participants are generally not prepared and generally do not participate in class discussion. They have difficulty determining the strengths and weaknesses of the text in front of them. They are noted as below-average critics by their classmates.
- F: These critics are not prepared and do not participate in class discussion.

Writing Center

We Buffs are lucky to have a Writing Center that is nationally recognized for its excellence. Stop by the Writing Center for invaluable one-on-one help with your writing. Please remember to make your appointments for assistance (on their website) in a timely manner, as the Center is very popular, particularly in the latter half of the semester. And remember this: the Writing Center is not a proofreading service. It exists to help you help yourself. Here's the website: <http://www.colorado.edu/PWR/writingcenter.html>.

Academic Conduct and University Services

If you speak English as a second language, you should contact me before the third class meeting so that I can better assist you in the course, advise you about special ESL courses, and/or refer you to appropriate services on campus.

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 can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and <http://www.colorado.edu/disabilityservices>.

If you have a temporary medical condition or injury, see guidelines at <http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.html>.

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, I ask you to contact me if you need to miss class or turn in an assignment late for reasons of religious observance. See full details at http://www.colorado.edu/policies/fac_relig.html.

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, 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.

The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>.

COURSE SCHEDULE³

Week One

M 1/15: MLK, Jr. Day. No class.

W 1/17: Acrosticality!

F 1/19: Course overview. Review grading contract.

–For Monday, read, print, and sign the grading contract, available on D2L. Go to Content, then Grading Contract.

Week Two

M 1/22: Guest presentation: Kady Haisley from Arapahoe Campus.

W 1/24: Guest presentation: Linda Arroyo-Holmstrom from the AVID program.

F 1/26: Guest presentation: Julia Halaby from Learning Services at Boulder High School. Introduce Personal Statement and Portfolio assignments.

Week Three

M 1/29: Bookbinding workshop! Meet in Norlin M350B.

W 1/31: Critique examples of personal statements.

–For Friday, submit your personal statement to the Personal Statement dropbox on D2L by 11:59 p.m.

–Also by 11:59 p.m. on Friday, write an email to your preferred service-learning partner and “cc” me to it.

F 2/2: Introduce Children’s Book assignment. Look at examples.

Week Four

M 2/5: In-class workday: children’s books.

W 2/7: In-class workday: children’s books.

F 2/9: In-class workday: children’s books.

Week Five (aim to begin tutoring this week)

³ I may at times modify the dates and assignments that appear on this schedule. If I do, I will inform you of the changes either in class or through email. In any case, the syllabus on D2L will always be the most up-to-date.

M 2/12: In-class workday: children's books.

W 2/14: In-class workday: children's books.

F 2/16: In-class workday: children's books.

Week Six

M 2/19: Final in-class workday: children's books.

–For Wednesday, read Ali Almosawi, *An Illustrated Book of Bad Arguments*.

–For Friday, 2/23, finish, print, and bind your children's books.

W 2/21: In-class fallacy chase: Sarah Palin, “Sarah Palin on the Politicization of the Copenhagen Climate Conference,” and Bert Robinson, “Teach Darwin's Other Beliefs.” Introduce Fallacious Dialogues assignment.

F 2/23: Reading Day! Meet at Bear Creek Elementary School.

Week Seven

M 2/26: In-class workday: fallacious dialogues.

W 2/28: In-class workday: fallacious dialogues. Introduce Shakespearean Science project.

F 3/2: In-class workday: fallacious dialogues. Introduce What If . . . project.

Week Eight

M 3/5: Day of Joy and Wonder, Part 1. Meet in the Special Collections Reading Room, Norlin N345. No food, drink, or pens are allowed in the Reading Room. You may store your things in a locker in the hallway.

W 3/7: Day of Joy and Wonder, Part 2. Meet in M350B.

F 3/9: Day of Joy and Wonder 3: Maps, Maps, Maps! Meet in Benson Earth Sciences 1B65.

–For Monday, complete your fallacious dialogues and come to class ready to present.

Week Nine

M 3/12: Present Fallacious Dialogues. In-class viewing: Dave Underwood, “Introduction to Graphic Design, Part 1.”

W 3/14: Database instruction: Susan Guinn-Chipman from Special Collections, Archives, and Preservation.

F 3/16: In-class viewing: Dave Underwood, "Introduction to Graphic Design, Part 2." In-class workday: Shakespearean Science posters.

Week Ten

M 3/19: In-class viewing: Dave Underwood, "Introduction to Graphic Design, Part 3." In-class workday: Shakespearean Science posters.

W 3/21: In-class workday: Shakespearean Science posters.

F 3/23: In-class workday: Shakespearean Science posters.

Week Eleven

M 3/26: Spring Break. No class.

W 3/28: Spring Break. No class.

F 3/30: Spring Break. No class.

Week Twelve

M 4/2: In-class workday: Shakespearean Science posters. Read Annotated Bibliography prompt.

W 4/4: In-class workday: Shakespearean Science posters.

F 4/6: Final in-class workday: Shakespearean Science posters.

Week Thirteen

M 4/9: In-class exercise: clarity and redundancy. Introduce Annotated Bibliography. In-class workday: Shakespearean Science.

W 4/11: Database instruction: Government Information Librarian Leanne Walther.
–For Friday, read Steven Johnson's "Cold," available on D2L.

F 4/13: In-class exercise: propositional content and macaroni and cheese. Final in-class workday: Shakespearean Science.

– By 5:00 p.m., email a PDF of your posters to the InkSpot (inkspot.umc@colorado.edu) and cc me to it. Subject line: "Danny Long Poster Project."

Week Fourteen

M 4/16: In-class analysis: bad writing contest.

W 4/18: Introduce Exit Message assignment and critique examples.

–For Friday, submit your first five annotated sources to the Annotated Bibliographies dropbox on D2L by 11:59 p.m.

F 4/20: Hang posters. Meet outside Norlin N345. Bring your posters.

–For Monday, submit your exit message to the Exit Message dropbox on D2L by 11:59 p.m.

Week Fifteen

M 4/23: Return to Bear Creek!

W 4/25: In-class workday: So what?

F 4/27: In-class workday: So what?

–For Monday, submit your final five annotated sources to the Annotated Bibliographies dropbox on D2L by 11:59 p.m.

Week Sixteen

M 4/30: In-class workday: What If . . .

W 5/2: Gallery Day. Meet in Norlin N345.

F 5/4: Tutoring hours, Mr. Hanratty journals, revised exit messages, and portfolios (optional) due in their respective dropboxes by 11:59 p.m.