

Basic Course Information

Title of Course: Science Writing & Presentation

Course Rubric (Subject) and Number: IB 454

Course Term and Year: Fall Semester

Course Duration: Full Semester

Contact Hours: Tuesday & Thursday 9:30-10:50am; two 80-minute lecture periods each week

Course Format: face-to-face

Course Location: Morrill Hall or Natural History Building

Weekly Hours of Expected Student Work, apart from instruction time: 6 hours outside of class per week.

Number of Credit Hours: 3 undergraduate and graduate

Instructor Information

Name: Xuguo “Joe” Zhou

Email: xgzhou@illinois.edu

Office building and room number: 518 Morrill Hall

Office hours: Tuesday & Thursday 2-4pm; or schedule appointments by email

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Define and critically evaluate the concept of "science" and outline the key components involved in planning a scientific investigation.
2. Analyze and critique scientific literature, demonstrating skills in communicating experimental design, results, and data interpretation.
3. Discover, evaluate, and effectively present evidence to support arguments within the subject area, following discipline-specific documentation and citation formats.
4. Communicate scientific concepts through writing, focusing on peer-reviewed journal articles and research proposals.
5. Produce written work that is free of mechanical errors (grammar, punctuation, spelling, and syntax) and demonstrates a style appropriate to the purpose and audience.
6. Apply a structured writing process, including generating ideas, revising, editing, and proofreading, to develop polished and effective texts.
7. Deliver engaging and original oral presentations tailored toward specific audience groups in public settings.
8. Construct a professional curriculum vitae that supports students' career development and advancement.

Prerequisites

As a communication-intensive course, it is specifically designed for upper-level undergraduate students (juniors and seniors) as well as graduate students.

Course Description

This class is intended to train skills in communicating and evaluating science-based knowledge. Specific focus is given to the agricultural, biological, and biomedical sciences. In the process, students will learn how to search and evaluate relevant literature, think about science and the

scientific process, and communicate scientific results and implications for science policy. This course should further the students' experience with science, enhance their appreciation for the scientific process, and what it means to conduct scientific research.

Grading

There are no midterms or exams, i.e., grades will be based on several major assignments (described below), class attendance, and participation (e.g., ask questions, engage with the class, and actively provide comments and suggestions on oral presentations). All assignments, whether submitted as hardcopy or electronic documents, must be available to the instructor by the due date and time. There are penalties for late submissions (see Policies section).

Note that most written assignments will be submitted electronically as specified by the instructor. For MS-Word documents, use 1-inch margin on all sides, 1.5- or 2-line spacing (unless otherwise indicated), 12-point font size, and a header or footer on all pages showing page number (bottom) and student's name (upper right-hand corner).

Due to the complexity of the content, prerequisite knowledge or prior experience in writing and communication is necessary for success. Consequently, this communication-intensive course is designed specifically for upper-level undergraduates and graduate students. Graduate students will complete assignments similar to those of undergraduates but will be held to higher standards, with more rigorous assessments and advanced expectations for analysis, synthesis, and presentation.

Grades will then be awarded based on the following scale:

A+ = 99.5-100,	A = 93.5-99.4,	A- = 89.5-93.4
B+ = 86.5-89.4,	B = 83.5-86.4,	B- = 79.5-83.4
C+ = 76.5-79.4,	C = 73.5-76.4,	C- = 69.5-73.4
D+ = 66.5-69.4,	D = 63.5-66.4,	D- = 59.5-63.4
F = 59.4 or below		

An F without a chance to re-take the class will result from failure due to cheating or plagiarism (see Policies section).

Learning Management System

Course assignments, readings, syllabus, and Zoom links for online participation are posted on the Illinois Canvas website: <https://canvas.illinois.edu/>. You will need your NetID and password to gain access. Updates will be announced in lectures and as announcements on Canvas. Please contact me if you have any problems accessing the website. Official university e-mail addresses are used for course communications. Please note that you are expected to check your university issued e-mail account regularly and act on any communications received. Due to privacy restrictions, I may not be able to respond to e-mail messages sent from non-university e-mail accounts.

Required and Recommended Course Readings

There is no textbook for this course; readings will be assigned from each module. Assigned readings should be read in their entirety, including the peer-reviewed journal articles. Students are expected to learn all material presented in lecture and apply knowledge in assignments, peer assessments, and in class discussions.

Major Assignments

A total of five major assignments covering 1) library resources and literature search, 2) data handling and presentation, 3) curriculum vita, 4) oral presentation, and 5) research proposal are as follows:

Assignment I: Library Resource Assignment (10 points)

- Dr. Kelli Jean Trei, Biosciences Librarian and Associate Professor, will lead the class through this assignment.
- The database assignment must be completed and submitted electronically according to the deadline provided in the calendar.
- Literature citations relevant to your proposed project must be provided following a format specified by the journal-of-your choice.
- Citations (at least three in total) must be from primary scientific literature.
- Citations must come from *three different* scientific journals, i.e., each citation, pertaining to your research project, will come from a different journal.
- Choose a standard journal citation format that includes all authors, year of publication, full article title, journal name, journal volume, and inclusive page numbers.
- You will use one or multiple citation management program, e.g., EndNote, throughout your careers. You will use it to develop the References section of your research proposal, both draft and final version.

Assignment II: Data Handling Assignment (10 points)

An assignment focused on effectively presenting data using tables and graphs based on the lectures will be submitted to me, preferably in MS-Word format.

Assignment III: CV Assignment (10 points)

Each student will submit an up-to-date draft (5 points) and final (5 points) curriculum vitae (CV) following the guidelines provided during the lecture.

Assignment IV: Oral Presentations (15-20 min, 35 points)

- Each student will deliver a practice (10 points) and a formal (15 points) oral presentation of their research proposal.
- A practice and a formal session will be scheduled by the instructor.
- The PowerPoint file for the draft (practice) presentation must be provided to the instructor prior to the practice session. This can be accomplished by sending the file as an e-mail attachment to xgzhou@illinois.edu. This file will assist the instructor in providing constructive comments about the presentation. *In addition, the student should bring a copy of the file on a USB drive on the day of the presentation so you can present it to your evaluators.*

- Each student can meet with me either in person or virtually after the practice round to review performance and PPT presentation should you wish. Let me know and I will set up a time and/or a zoom link.
- The PowerPoint file for the actual (formal) presentation must be provided to the instructor which will assist me in providing constructive comments about the presentation.
- Peer evaluation of presentations (*10 points = 5 points for the practice and 5 points for the formal presentations*)
- Both practice and formal presentations of each student will receive comprehensive peer evaluations by the same peer evaluators.
- Typically, every student in the class will critique 2-3 practice and 2-3 formal presentations, respectively. The evaluators must attend both the practice and formal presentations of the students they will be evaluating.
- Evaluations are due *within 48 hours* at the conclusion of the presentations and must follow the format provided in the Presentation Evaluation Form.
- The evaluation of the practice presentation should focus on the specific strengths and weaknesses of the presentation.
- The evaluation of the formal presentation should focus on the relative improvement over the practice presentation. *The improvement and level of effort made in revising practice slides is an important consideration.*
- Peer evaluations will not be used to assign a grade for the presentation, so be completely honest and critical, but in a constructive way.
- Peer evaluations will be graded on their thoroughness. Student evaluations should not be so general and vague that they are of little value to the presenter; they should make specific comments and recommendations.

Assignment V: Research Proposal (10 pages, 30 points)

- The research proposal can either be the extension of the oral presentation, or an independent entity.
- Each student will submit to the instructor an electronic file of a draft proposal (*10 points*) on or before the due date (see calendar for details). The proposal will be distributed to 2-3 fellow students for peer review.
- The draft proposals will be provided to the same 2-3 peer reviewers who graded the oral presentations. All reviews are to be submitted to the instructor so that they can be made available to the author by two weeks before the due date for the final draft.
- Peer reviews (*5 points*) of research proposals should be constructive in nature.
- Draft proposals should then be revised based on the comments from the instructor and peer reviewers.
- The final version of the revised research proposal (*15 points*) is due by the date noted in the Calendar.

Total: 95 possible points

The remaining five Points (*5 points*)

You can earn the remaining 5 points in the following two ways:

1. Actively participate in class discussions (e.g., ask questions, engage with the class, and enthusiastically provide comments and suggestions on oral presentations); and/or
2. Keep a perfect attendance record

Attendance Policy/Acceptable Documentation

Formal written excuses, consistent with university regulations, will be required for each absence. University policies for excused absences are specified on the web page entitled Student Code <https://studentcode.illinois.edu/article1/part5/1-501>. Please note that The [Student Code](#) outlines those circumstances in which a student may be eligible to obtain a letter from the Office of the Dean of Students for missed class. When eligible, students must submit an [absence letter request](#) within two weeks of returning to class following the absence. Note, a brief illness (less than 3 days) would not qualify for a letter of absence.

- Students must notify the instructor of their absence prior to the absence or within one week of the absence.
- Students must submit any written documentation supporting their excused absence within one week after the absence.

Students should give advance notice about any absences due to major religious holidays to request accommodation (see Religious Observances Policy).

Assignment Policies

Assignment Submissions

Your assignments will be submitted to me electronically, preferentially through Canvas (if you have issues assessing Canvas, you can send the assignments to xgzhou@illinois.edu). Both your Draft and your Finalized Research Proposals, written in Word, will be submitted on-line through Canvas where the program TurnItIn will examine each and alert you to problems. If you do not use Word as your writing software, please let me know in advance, and I might be able to alter the program to allow submissions from the word processing software of your choice.

Returning Assignments to Students

I will provide comments and suggestions in a timely fashion for your assignments submitted by course deadlines. If you feel that there has been an excessive delay in receiving your assignment back from me, e-mail me (xgzhou@illinois.edu) to determine the status of your assignment.

Late Assignments

Assignments submitted after the deadline will incur a penalty of 10% per day, unless prior arrangements have been made. This penalty will be deducted from the total possible points for the assignment.

Use Generative AI

Generative AI tools offer tremendous potential but also present unique challenges when used in academic work. Writing and research are pivotal to learning, with academic integrity requiring that your work reflects your own understanding and effort. When using generative AI in your work, please follow the university guideline, [Generative AI Guidance for Students - EVPAA](#). Clearly articulate how the AI was used, the extent of its contribution, and the percentage of your work influenced by it. Transparency is essential to upholding ethical standards. Additionally, validate the accuracy of citations generated by AI tools, as these tools can sometimes produce

incorrect or fabricated references. Always ensure the credibility of your sources to maintain the integrity of your academic work.

Academic Integrity

The University of Illinois at Urbana-Champaign Student Code should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/>. Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policy: <https://studentcode.illinois.edu/article1/part4/1-401/>. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

Snippets of the text can be found using the links below:

- Policy Statement; Application; Definitions, [§ 1-401 | Student Code | UIUC](#)
- Academic Integrity Infractions, [§ 1-402 | Student Code | UIUC](#)
- Initial Determination, [§ 1-403 | Student Code | UIUC](#)
- Sanctions and Student Status, [§ 1-404 | Student Code | UIUC](#)
- Appeal Procedures, [§ 1-405 | Student Code | UIUC](#)

Family Educational Rights and Privacy Act (FERPA)

Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <https://registrar.illinois.edu/academic-records/ferpa/> for more information on FERPA.

Mental Health

Significant stress, mood changes, excessive worry, substance/alcohol misuse or interferences in eating or sleep can have an impact on academic performance, social development, and emotional wellbeing. The University of Illinois offers a variety of confidential services including individual and group counseling, crisis intervention, psychiatric services, and specialized screenings which are covered through the Student Health Fee. If you or someone you know experiences any of the above mental health concerns, it is strongly encouraged to contact or visit any of the University's resources provided below. Getting help is a smart and courageous thing to do for yourself and for those who care about you.

- Counseling Center (217) 333-3704
- McKinley Health Center (217) 333-2700
- National Suicide Prevention Lifeline (800) 273-8255
- Rosecrance Crisis Line (217) 359-4141 (available 24/7, 365 days a year)

For mental health emergencies, you can call 911 or contact the Counseling Center.

*This statement is approved by the University of Illinois Counseling Center

Community of Care

As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether

in regard to their well-being or yours, we encourage you to refer this behavior to the Connie Frank CARE Center (formerly the Student Assistance Center) in the Office of the Dean of Students. You may do so by calling 217-333-0050 or by submitting an [online referral](#). Based on your report, staff in the Student Assistance Center will reach out to offer support and assistance.

Further, as a Community of Care, we want to support you in your overall wellness. We know that students sometimes face challenges that can impact academic performance (examples include mental health concerns, food insecurity, homelessness, personal emergencies). Should you find that you are managing such a challenge and that it is interfering with your coursework, you are encouraged to contact the [Connie Frank CARE Center](#) (formerly the Student Assistance Center) in the Office of the Dean of Students for support and referrals to campus and/or community resources.

Disability-Related Accommodations

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor as soon as possible and provide the instructor with a Letter of Academic Accommodations from Disability Resources and Educational Services (DRES). To ensure that disability-related concerns are properly addressed from the beginning, students with disabilities who require assistance to participate in this class should apply for services with DRES and see the instructor as soon as possible. If you need accommodation for any sort of disability, please speak to me after class, or make an appointment to see me or see me during my office hours. DRES provides students with academic accommodation, access, and support services. To contact DRES, you may visit 1207 S. Oak St., Champaign, call 217-333-1970, e-mail disability@illinois.edu or visit the DRES website at <https://dres.illinois.edu/>. Here is the link for information to apply for services at DRES, <https://dres.illinois.edu/information-before-you-apply/application-process/>.

Disruptive Behavior

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office for Student Conflict Resolution (<https://conflictresolution.illinois.edu>; conflictresolution@illinois.edu; 333-3680) for disciplinary action.

Emergency Response Recommendations

Emergency response recommendations and campus building floor plans can be found at the following website: <https://police.illinois.edu/em/run-hide-fight/>. I encourage you to review this website within the first 10 days of class.

Religious Observances

Illinois law requires the University to reasonably accommodate its students' religious beliefs, observances, and practices in regard to admissions, class attendance, and the scheduling of examinations and work requirements. Students should complete the [Request for Accommodation for Religious Observances form](#) should any instructors require an absence letter in order to manage the absence. In order to best facilitate planning and communication between students

and faculty, students should make requests for absence letters as early as possible in the semester in which the request applies.

Sexual Misconduct Reporting Obligation

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX Office. In turn, an individual with the Title IX Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: <http://wecare.illinois.edu/resources/students/#confidential>. Other information about resources and reporting is available here: <http://wecare.illinois.edu>.

Tentative Course Schedule (IB 454)*

Period	Date	Topic(s)	Assignment	Due Date
1	8/26	Organization/Introduction	---	---
2	8/28	Scientific Method and Communication	---	---
3	9/02	Literature search; Reading papers; Plagiarism	---	---
4	9/04	Data Handling	Data Handling Assignment	---
5	9/09	Data Handling/Curriculum Vitae	---	---
6	9/11	Research Paper	---	---
7	9/16	Research Paper	CV Assignment	Data Handling Assignment
8	9/18	Research Paper (Guest Speaker: Dr. Clare C. Rittschof)		
9	9/23	Library Resources**	Library Resource Assignment	---
10	9/25	Library Resources	---	---
11	9/30	Library Resources	---	Library Resource Assignment
12	10/02	Oral Presentation	---	---
13	10/07	Oral Presentation	---	First Draft of CV
14	10/09	Oral Presentation (Guest Speaker: Dr. Jonathan Larson)		
15	10/14	Research Proposal	---	---
16	10/16	Research Proposal	---	Final Version of CV
17	10/21	Research Proposal (Guest Speaker: Dr. Nick Teets)		
18	10/23	Oral Presentation (practice round) (Student 1/2/3)	Peer Evaluation (Student 4/5/6)	All students must attend
19	10/28	Oral Presentation (practice round) (Student 4/5/6)	Peer Evaluation (Student 7/8/9)	All students must attend
20	10/30	Oral Presentation (practice round) (Student 7/8/9)	Peer Evaluation (Student 10/11/12)	All students must attend
21	11/04	Oral Presentation (practice round) (Student 10/11/12)	Peer Evaluation (Student 13/14/15)	All students must attend
22	11/06	Oral Presentation (practice round) (Student 13/14/15)	Peer Evaluation (Student 1/2/3)	All students must attend
23	11/11	Oral Presentation (formal round) (Student 1/2/3)	Peer Evaluation (Student 4/5/6)	Draft of Research Proposal All students must attend
24	11/13	Oral Presentation (formal round) (Student 4/5/6)	Peer Evaluation (Student 7/8/9)	All students must attend
25	11/18	Oral Presentation (formal round) (Student 7/8/9)	Peer Evaluation (Student 10/11/12)	All students must attend
November 20-30, Fall Break				
26	12/02	Oral Presentation (formal round) (Student 10/11/12)	Peer Evaluation (Student 13/14/15)	Peer Review of Proposals
27	12/04	Oral Presentation (formal round) (Student 13/14/15)	Peer Evaluation (Student 1/2/3)	All students must attend
28	12/09	Consultation by appointment	---	---
29	12/18	FINAL VERSION OF PROPOSAL DUE (Final Grade will be posted by 12/18/25)		

“**”: This schedule is designed to accommodate up to 15 enrolled students; I also reserve the right to reorganize the schedule if necessary. “***”: Dr. Kelli Jean Trei, Biosciences Librarian and Associate Professor, will lead the class through this section.

Important Dates: 2025 FALL SEMESTER (full 16 weeks, approximately 8/25/2025 – 12/10/2025 plus finals).