



### Special Topics: Scientific Writing and Communication

BIOL 5370 – 001

Science and Technology Building 179

Mondays, 3:00 – 5:45 pm

Instructor: Liz Borda, Ph.D.

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Virtual Office Hours: By appointment

**Course Description and Prerequisites:** This course provides graduate students with guidance on and application of written and verbal communication skills in reading, analyzing, writing, and sharing scientific information in the Biological Sciences. Prerequisite: Graduate level status.

#### Course objectives are to:

- Enhance written and oral communication skills
- Develop and deepen disciplinary knowledge related to student research project
- Prepare and present scientific information in diverse professional formats
- Prepare research proposal and/or thesis towards fulfilling requirements of the MS in Biology degree

#### Course Resources

Activities provided in Blackboard: *Entering Research: A Curriculum to Support Undergraduate & Graduate Research Trainees* SBN-13: 978-1319263683, ISBN-10: 1319263682 (2nd edition; Branchaw JL, Butz AR, & Smith A; W. H. Freeman, 2019).

Recommended (3<sup>rd</sup> or 4<sup>th</sup>): *Successful Scientific Writing. A Step-By-Step Guide for the Biological and Medical Sciences*. SBN-13: 978-1107691933, ISBN-10: 1107691931 (4<sup>th</sup> edition; Matthews JR & Matthews RW; Cambridge University Press, 2014)

#### Course Policy

**Course Expectations:** Personal and academic integrity, to be open to new ideas, and to share in a community where individuals from diverse backgrounds and cultures help one another grow intellectually, socially, and personally is expected at all times throughout the course. The faculty and staff of TAMUSA are here to help; however, students must take responsibility for their own learning. Students should strive for a high level of academic performance and to be responsible, respectful, contributing citizens within the university and in outside communities. Above all, students should develop a love of learning that will last a lifetime, along with a life-long interest in maintaining emotional and physical wellness.

**Active Participation:** Students are expected to actively participate during class. It is recognized that students learn in a diversity of ways, thus diverse teaching strategies will be implemented as part of the course (e.g., discussion, reading, writing, individual reflection, presenting, collaboration). There are multiple ways to demonstrate active learning engagement in this

course and the intention is for students to strive beyond their preferred ways of learning and comfort zones, as dissonance can promote new learning. Students are highly encouraged to contribute thoughtful comments and questions, as well as to listen carefully to your peers' contributions and respectfully respond to others' comments. The success of mutual learning depends upon preparation and active participation in all aspects of the course.

**Attendance:** This is a discussion-based and community-oriented learning environment. Your attendance is very important to the functioning of this course. If you must be absent for a class due to illness or other obligations, please send the instructor an email or leave a voicemail prior to the start of class. As stated above, if you must miss a class session you are responsible for all material covered and any handouts given during that class session.

**Grading:** If you believe an error was made in grading please do not hesitate to bring it to my attention as soon as possible. If you find yourself struggling with this course, please talk to the instructor as soon as possible and **do not wait until the end of the semester**. You are always welcome to stop by my office or email me to make an appointment to discuss your concerns. To be successful in this course you are expected to complete all assignments on time.

#### Grade Scale and Points Distribution

**A = >90.0    B = 80.0 – 89.9    C = 70.0 – 79.9    D = 60.0 – 69.9    F = <59.9**

Evaluation	Points
Abstract (Conference/Journal)	5
Introduction	5
Methods	5
(Preliminary) Results	5
Present Data Visually	5
Discussion	5
References	5
Media Communication	5
Poster Presentation	10
Graphical Abstract	5
Oral Presentation	10
Manuscript Initial Draft	10
Manuscript Final Draft	15
Participation / Reflections	10
<b>TOTAL</b>	<b>100</b>

## Assignments

This course will be graded on a point system, with a total of 100 possible points.

- **Abstract.** Write an abstract about the scientific project following the format for submission to a professional conference or a target journal. We will use the following guidelines:
  - *Integrative Organismal Biology* journal (Society for Integrative and Comparative Biology). [https://academic.oup.com/iob/pages/General\\_Instructions](https://academic.oup.com/iob/pages/General_Instructions)
  - *A&M-SA Student Research Symposium* (April 19, 2024). <https://www.tamusa.edu/student-research-symposium/index.html> (**Due: January 31, 2024**)
- **Introduction.** Write the introduction section of the scientific project that may include but is not limited to: significance of topic, known background information, gaps in the literature, and the purpose of their project.
- **Methods.** Write a methods section to investigate the chosen scientific project that may include but is not limited to: participants, Research compliance (e.g., Institutional Animal Care and Use Committee (IACUC), Institutional Biosafety Committee) approval details, experimental procedures, instrumentation, statistical analyses, etc.
- **(Preliminary) Results.** Write a preliminary draft of the results of the chosen scientific project. Mock data may be used if real data are unavailable.
- **Presenting Data Visually.** Present results using at least 1 table and at least 1 figure (e.g., graph, chart) to describe the results of the chosen scientific project. Mock data may be used if real data are unavailable.
- **Discussion.** Students will write a discussion and interpret findings of the chosen scientific project. Sections include but are not limited to: explanation of findings, comparing and contrasting with previously published literature, limitations and future recommendations, practical and/or implications, and a conclusion section.
- **References.** Format a reference list for the scientific project according to APA format guidelines.
- **Media Communication.** Write a 1-page summary about the chosen scientific topic for publication in popular media (e.g., newspapers, magazines).
- **Poster Presentation.** Submit a formal PowerPoint poster presentation of the chosen scientific project.
- **Graphical Abstract.** Write a graphical abstract about the scientific project following: <https://www.elsevier.com/researcher/author/tools-and-resources/graphical-abstract>
- **Oral Presentation.** Present the chosen scientific project using a formal oral PowerPoint presentation.
- **Manuscript.** Write a full manuscript draft in a formal format for possible submission to a peer-reviewed journal of choice. Students will submit an initial full draft and a final full draft using the *Integrative Organismal Biology* journal [https://academic.oup.com/iob/pages/General\\_Instructions](https://academic.oup.com/iob/pages/General_Instructions)

**Blackboard and Course Communication:** All grades will be posted and be accessible through the course's Blackboard site. Students must login regularly to both the Blackboard site and to their TAMUSA email account to keep updated on information or changes related to the class. Each student MUST have an active TAMUSA e-mail account. This will be the e-mail address that is used for any communication between you and your instructor. E-mail may be sent from student-to-student, or student-to-instructor using the e-mail feature in Blackboard's Communication area. Students who e-mail the instructor Monday-Thursday ordinarily can expect a response within 24 hours. Students who e-mail Friday-Sunday ordinarily can expect a

response by Monday morning. The preferred method of communication will always be via Telegram first (link above and provided in Blackboard), then e-mail or making a virtual appointment.

## IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Persons with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Support Services in the Central Academic Building, Suite 210, or at (210) 784-1335 or visit <https://www.tamusa.edu/index.html> or email us at [dss@tamusa.edu](mailto:dss@tamusa.edu). Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing [tutoring@tamusa.edu](mailto:tutoring@tamusa.edu), calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment call 210-784-1331 or visit Modular C, Room 166 (Rear entrance).

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services.

**Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2').** For more information and self-help resources, please visit [www.tamusa.edu/studentcounseling](http://www.tamusa.edu/studentcounseling)

Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>.

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-operations-plan.pdf> and <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-action-plan.pdf>

Download the SafeZone App for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://bit.ly/WLDCCenter>.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students ([DOS@tamusa.edu](mailto:DOS@tamusa.edu)) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots' Casa in-person room 202, or to contact the Office of Military Affairs with any questions at [military.va@tamusa.edu](mailto:military.va@tamusa.edu) or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity.

To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units. Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator ([titleix@tamusa.edu](mailto:titleix@tamusa.edu), 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide reasonable accommodations to pregnant students that would be provided to a student with a temporary medical condition and that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status ([titleix@tamusa.edu](mailto:titleix@tamusa.edu); 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which

is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

#### *Students' Rights*

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

#### *Students' Responsibilities*

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, Student Code of Conduct, on our website, University Catalog and to comply with them, as well as federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct.

No Use of Generative AI Permitted. BIOL 3402 assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

**Important Academic Dates:**

January 16	First day of class
<b>January 31</b>	<b>Deadline for students who have applied for Spring 2024 graduation to complete Change of Name and/or Change of Major form(s) at the Welcome Center</b>
March 11 - 17	Spring Break
April 13	Last day to drop with an automatic "W"
<b>April 16</b>	<b>Draft due to Office of Graduate Studies (Submitted after defense and committee approval)</b>
April 20	Last day to withdraw from the University
April 23	Edits/Suggestions back to the student
April 29	Last day of Scheduled Classes
April 30	Study Day – No Classes
<b>April 30</b>	<b>Final Draft (with all corrections made) due to the Office of Graduate Studies</b>
May 1 - 7	Final exams

*The complete academic calendar is available online:  
<https://catalog.tamusa.edu/undergraduate/academic-calendar/>*





# SYLLABUS Spring 2024

## Detailed Schedule

Schedule subject to change.

Any changes will be announced during class on *Blackboard and/or Telegram*.

Week	Topics/Activities	Week	Topics/Activities
WEEK 1 (Of Jan. 15)	<ul style="list-style-type: none"> <li>• <b>NO CLASS – Martin Luther King Day</b></li> </ul>	WEEK 9 (Of Mar. 11)	<ul style="list-style-type: none"> <li>• <b>NO CLASS – Spring Break</b></li> </ul>
WEEK 2 (Of Jan. 22)	<ul style="list-style-type: none"> <li>• Introductions, Course Overview, Graduate Program Requirements, Research Experience Reflection</li> </ul>	WEEK 10 (Of Mar. 18)	<ul style="list-style-type: none"> <li>• Communicating Research (Oral Presentations)</li> <li>• Three-Minute Research Story</li> </ul>
WEEK 3 (Of Jan. 29)	<ul style="list-style-type: none"> <li>• Research Outline &amp; Abstract</li> <li>• 30 min quick writing session</li> <li>• Advanced students: Present abstracts for peer review</li> <li>• A&amp;M-SA SRS Abstract due: January 31</li> </ul>	WEEK 11 (Of Mar. 25)	<ul style="list-style-type: none"> <li>• Communicating to the General Public</li> <li>• 30 min quick writing session</li> <li>• *Thesis defense practice (as needed)*</li> </ul>
WEEK 4 (Of Feb. 5)	<ul style="list-style-type: none"> <li>• Borda in Mexico</li> <li>• Guest Speaker (Writing Center)</li> <li>• Developing the Introduction / Background Information</li> </ul>	WEEK 12 (Of Apr. 01)	<ul style="list-style-type: none"> <li>• Poster Presentations Review</li> <li>• *Thesis defense practice (as needed)*</li> </ul>
WEEK 5 (Of Feb. 12)	<ul style="list-style-type: none"> <li>• Borda in Mexico</li> <li>• Guest Speaker (Graduate Studies)</li> <li>• Project Design</li> </ul>	WEEK 13 (Of Apr. 8)	<ul style="list-style-type: none"> <li>• Oral Presentations Review</li> <li>• *Thesis defense practice (as needed)*</li> </ul>
WEEK 6 (Of Feb. 19)	<ul style="list-style-type: none"> <li>• Research Proposal</li> <li>• 30 min quick writing session (2 X)</li> <li>• Selecting and Working with your Committee members</li> </ul>	WEEK 14 (Of Apr. 15)	<ul style="list-style-type: none"> <li>• Poster and/or Oral Presentation Practice</li> <li>• <b>*April 15 – Thesis due to Graduate Studies</b></li> <li>• <b>*April 19 – Student Research Symposium</b></li> </ul>
WEEK 7 (Of Feb. 26)	<ul style="list-style-type: none"> <li>• Research Paper</li> <li>• 30 min quick writing session (2 X)</li> <li>• Peer Review Process</li> </ul>	WEEK 15 (Of Apr. 22)	<ul style="list-style-type: none"> <li>• No Class/Submit all missing assignments</li> <li>• Due by Sunday April 28, 11:59 PM</li> </ul>
WEEK 8 (Of Mar. 4)	<ul style="list-style-type: none"> <li>• Communicating Research Findings (Posters)</li> <li>• Graphical Abstract</li> <li>• Presentation Development</li> </ul>	WEEK 16 (Of Apr. 29)	<b>THE END</b>