



## **BSC 201.01E: Biological Literature - Fall 2021**

**CRN: 84613 - TR 8:00-9:15 am - STC 127**

### **Instructor Information**

Instructor of Record: **Dr. Bjorn Schmidt**

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Office hours: MWF 9:50 am -10:50 am;

\*mask requested if attending face-to-face office hours\*

**Dr. Venugopalan Cheriya**

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**Dr. Johanna Delgado-Acevedo**

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**Dr. Izhar Khan**

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**Dr. Lucina Márcia Kuusisto**

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Office hours: M 12:00 – 5:00 pm

**Dr. Lani Lyman-Henley**

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Email: [Lani.Lyman-Henley@tamuc.edu](mailto:Lani.Lyman-Henley@tamuc.edu)

Office hours: WF 10:00 – 11:30 am

## Course Information

Materials – Textbooks, Readings, Supplementary Readings

**Course Meeting Time/Place:** TR 8:00 – 9:15 am; location: STC 127

**This is a web enhanced course.** There will be multiple reading assignments and other materials posted in the course website in myLEO Online. Students are responsible for keeping up with all such assignments.

**Textbooks:** Recommended, but not required:

Knisely, K. 2017. A Student Handbook for Writing in Biology. 5<sup>th</sup> Ed. Sinauer Associates/W.H. Freeman and Co. ISBN-13: 978-1319121815

Pechenik, J. A. 2009. A Short Guide to Writing about Biology, 9<sup>th</sup> Ed. Pearson. ISBN-13: 978-0321984258

**Software Required:** please see technology requirements

## Course Description

The course provides students with the fundamentals of scientific thinking and scientific writing. The course starts with a brief description of literature searches, then reading scientific papers and writing lab reports. Then there is an overview of the history and philosophy of science as it pertains to biology. Students will learn about empiricism, parsimony, and how to apply the scientific method in developing and testing hypotheses. Students will be taught how to write in scientific style: naming conventions, how to cite scientific names, how to avoid overuse of jargon, establishing flow, organizing a scientific document, how to write an abstract, how to present scientific data and statistics, how to cite figures and tables, how to cite scientific sources, and how to avoid plagiarism. The final section of the class deals with bioethics and the use of ethics in biological research.

## Student Learning Outcomes

1. To practice scientific thinking and writing.
2. To understand literature searches, then reading and writing scientific papers and writing lab reports
3. To foster development of communication skills and clarity to present ideas and explain them to the scientific community and in public.
4. To learn about empiricism, parsimony, and how to apply the scientific method to developing and testing hypotheses.
5. To learn how to organize a scientific document, how to follow scientific style conventions, how to write an abstract, how to present scientific data and statistics, how to cite figures and tables, how to cite scientific sources, and how to avoid plagiarism.

## Course Requirements

### Minimal Technical Skills Needed:

- Proficiency in using the D2L Brightspace Learning Management System in myLEO Online
- Proficiency in using and access to Microsoft Word, Excel, and PowerPoint
- Proficiency in other relevant graphics programs for preparing effective PowerPoint presentations

## Instructional Methods

This course relies heavily on online content. Lectures are face-to-face, but all course materials and student assignment submissions will be posted online in D2L.

### Student Responsibilities and tips for success:

- Dedicate time weekly to the course to keep up with material/assignments
- Keep track of deadlines and submit assignments on time
- Special accommodations, if needed, should be requested by notifying the instructor in advance
- Keep track of which instructor covers the different course topics, and contact the relevant instructor with questions or issues as they come up

- Regularly check both D2L and university email accounts for any course related announcements

## **Grading**

Final course grades will use the following scale:

- A: 90-100%
- B: 80-89%
- C: 70-79%
- D: 60-69%
- F: 59% or below

### **Homework Assignments**

Grades are mainly based on homework assignments. You are required to submit all your assignments via myLeo Online. It's your responsibility to find the appropriate location in D2L to submit each assignment, use the right file format for submission, and upload the homework before the deadline. Your assignment may not be graded if it is submitted incorrectly. Failure to submit assignments will result in zero points for that item.

In general, submitted documents must be in .rtf, .doc, or.docx format, and therefore access to Microsoft Office is needed.

### **Grading Scheme and Assignment List**

Homework Assignment: Literature Search	8
Homework Assignment: Writing an Abstract	8
Homework Assignment: Writing Materials & Methods and Results	8
Homework Assignment: History and Philosophy of Science	10
Homework Assignment: Biological Nomenclature	8
Homework Assignment: Editing a Paper	8
Homework Assignment: Writing a Hypothesis	8
Homework Assignment: Writing Results	8
Homework Assignment: Writing Discussion	8
Homework Assignment: Citations	8
Homework Assignment: Ethics Reading Assignment	8
Homework Assignment: Ethics Debate Essay	10

## **Course Outline/Calendar**

## **Weeks 1 & 2 (August 30 – September 10), Dr. Lucina Kuusisto**

### 1. Developing a Literature Search Strategy

Database and Search Engines for Scientific Literature

Comparison of databases

Database Search Strategies

Evaluating Search Results

Managing References (Citations)

**(Homework: Literature search)**

### 2. Reading and Writing Scientific Papers

a. Types and Hallmarks of Scientific Writing

b. Format

c. Documenting References

d. Strategies for Reading Journal Articles

e. Plagiarism

f. Benefits

**(Homework: Re-write the abstract in your own words)**

### 3. Preparing a Laboratory Report

a. Timetable

b. Getting Started

c. Starting with Materials & Methods Section

d. Results Section

e. Make Correction

f. Documenting Sources

**(Homework: Re-write the materials and methods as ONE set of matching results)**

## **Weeks 3 - 5 (September 13 – October 1), Dr. Johanna Delgado-Acevedo**

History and Philosophy of Science with Emphasis on Biology –

An Introduction to Logic and Scientific Thinking

**(Homework: History and Philosophy of Science)**

## **Weeks 6 & 7 (October 4 – October 15), Dr. Bjorn Schmidt**

### 1. Biological Nomenclature

Classification

Purpose: why have standardized names

Species Concepts

Binomial Nomenclature

Authorship and Synonyms Rules

Formatting Rules and Conventions

Conventions in other standardized naming systems relevant to Biology  
Abbreviations in biological relevant chemicals  
Nomenclature for genes and proteins  
**(Homework: Biological Nomenclature)**

## 2. Scientific Writing Styles and Editing Scientific Papers

Style Conventions

Intended Audience

Concise and Precise

Obfuscatory Scrivenry and Use of Jargon

Citing Instruments and Materials

Grammar and Organization

Simple Grammatical Rules

Use of Headings and Formatting (Fonts, Paragraphs, Spacing)

Paper Organization and Flow

Editing

Purposeful editing for clarity and brevity

How to use track changes for editing in Word

**(Homework: Editing a paper)**

## **Weeks 8 & 9 (October 18 – October 29), Dr. Venu Cheriya**

1. Hypothesis Testing – Principle of Parsimony (Occam's Razor)  
**(Homework: Writing a Hypothesis)**

2. How to Present Data

a. Figures and tables from published sources

b. Data management and spreadsheets

c. Figures and tables from original sources

**(Homework: Writing Results)**

3. How to Write a Discussion – Not Just a Restatement of Results  
**(Homework: Writing Discussion)**

## **Weeks 10 & 11 (November 1 – November 12), Dr. Izhar Khan**

1. Literature Search

a. What is a primary source of literature?

b. What are good sources of scientific information

c. How to search databases and internet

d. Citation management tools, e.g. Endnote

2. How to Cite References (Citation-Sequence and Name-Year Systems)

a. Avoid plagiarism by using citations

- b. Avoid using quotes
  - c. Avoid citing papers based solely on citation by others
- (Homework: Citations)**

**Weeks 12-15 (November 15 – December 10), Dr. Lani Lyman-Henley**

**\*Note: Nov. 22 – Nov. 26 = Thanksgiving Break Holiday\***

1. Bioethics and Ethics in Research  
**(Homework: Ethics Reading Assignment)**
2. Presentations: Talks & Posters
3. Bioethics Debates  
**(Homework: Ethics Debate Essay)**

## **Technology Requirements**

### **LMS**

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the *myLEO* Online Learning Management System (LMS). Below are technical requirements:

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

### **ACCESS AND NAVIGATION**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu)

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a

backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, coffee shops, a TAMUC campus open computer lab, etc.

### **Communication and Support**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

### **Technical Support**

If you are having technical difficulty with any part of *Brightspace*, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### **Interaction with Instructor Statement**

Response time to any questions sent by email regarding the course will be answered within 72 hours. However, students are encouraged to interact with the instructor directly during the class time and office hours, if necessary. Exceptions such as widespread internet outage apply.

### **Counseling Services Statement**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **Course and University Procedures/Policies**

#### **Course Specific Procedures/Policies**

You are expected to check your TAMUC email and myLEO Online every day to check for announcements. Additional information about all the assessment components including attendance, assignments, and group presentations is provided under "GRADING"

#### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### **University Specific Procedures:**

#### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](#)

<http://www.albion.com/netiquette/corerules.html>

#### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

#### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

#### **Students with Disabilities – ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that

provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

*Office of Student Disability Resources and Services*

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.