

## **BIOL 4380-130, CRN 81338, Evolution**

**Fall 2023**

Texas A&M University-Central Texas

### **COURSE DATES, MODALITY, AND LOCATION**

*This course meets face-to-face Mondays & Wednesdays from 5:30- 6:45 pm at the Warrior Hall, room # 317, and will be a 16-week course with supplemental materials made available through the A&M- Central Texas CANVAS Learning System from August 28, 2023 – December 15, 2023. [<https://tamuct.instructure.com>].*

### **INSTRUCTOR AND CONTACT INFORMATION**

**Instructor:** Dr. Onadia Cabrera-Mora

**Office** Beck Family Heritage Hall adjunct office

**Phone:**

**E-mail:** o.cabrera@tamuct.edu

#### **Office Hours**

Office Hours: by appt. only via WebEx

#### **Student-instructor interaction**

*I will check my Canvas e-mail at least once a day from Sun-Fri. This is the best way to reach me. Face-to-face appointments will be available during office hours and can be arranged via CANVAS, Inbox correspondence, or phone.*

#### **Emergency Warning System for Texas A&M University-Central Texas**

**SAFEZONE.** SafeZone provides a public safety application that allows you to call for help by pushing a button. It also enables Texas A&M University-Central Texas to communicate emergency information quickly via push notifications, e-mail, and text messages. All students automatically receive e-mail and text messages via their myCT accounts.

Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.

You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the [SafeZone](http://www.safezoneapp.com) website [[www.safezoneapp.com](http://www.safezoneapp.com)].

To register SafeZone on your phone, please follow these three easy steps:

1. Download the SafeZone App from your phone store using the link below:
  - [iPhone/iPad](https://apps.apple.com/app/safezone/id533054756): [<https://apps.apple.com/app/safezone/id533054756>]
  - [Android Phone / Tablet](https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp)  
[<https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp>]
2. Launch the app and enter your myCT e-mail address (e.g., {name}@tamuct.edu)
3. Complete your profile and accept the terms of service.

For updates on COVID information, please monitor the University [website](https://www.tamuct.edu/covid19/)  
[<https://www.tamuct.edu/covid19/>]

## COURSE INFORMATION

### Course Overview and Description

*Examine evolutionary theory, including the historical development of components of evolutionary theory, population-level microevolution, the fossil record, and macroevolution—Prerequisite (s): BIOL 1407 and BIOL 3452.*

### Course Objective or Goal

#### Student Learning Outcomes

*Students will:*

- a. understand the centrality of evolutionary theory to all of biology*
- b. explain the impact of gene distribution in populations on evolution, adaptation, natural selection, and speciation.*
- c. be able to manipulate allele frequencies using Hardy-Weinberg*
- d. demonstrate the importance and usefulness of evolutionary theory in practical or applied applications.*

### Competency Goals Statements (certification or standards) *N/A*

### Required Reading and Textbook(s)

1. Bergstrom, C.T., and Dugatkin, L.A. 2016. Evolution 2<sup>nd</sup> ed. WW Norton & Company.

This is a **Writing Instructive** course, which means writing will be an integral part of measuring your mastery of course content. Throughout the course you will have several opportunities to work on improving your writing skills. Out of the 600 available points for this class, more than half of them will be connected to some form of written work (e.g., essay questions, journals, drafts, literature review). Since learning to revise your writing is fundamental to improving writing skills, I will give you detailed feedback that includes specific strategies for how to improve your writing.

## COURSE REQUIREMENTS

Course Requirements: (include point values for each- not just a percentage)

- 40% Three lecture exams (SLO: a, b, c, d)
- 25% Final Comprehensive Exam (SLO: a, b, c, d)
- 20% Term paper – instructions and rubric at the end of the syllabus (SLO: a, b, d)
- 15% Assignments (SLO: a, b, c, d)

## Grading Criteria Rubric and Conversion

### *Grading scheme*

**A 4.00 (90 +)** outstanding achievement relative to the level necessary to meet course requirements.

**B 3.00 (80-89%)** Achievement significantly above the level necessary to meet course requirements.

**C 2.00 (70-79%)** Achievement that meets the course requirements in every respect.

**D 1.00 (60-69%)** Achievement worthy of credit even though it fails to meet complete course requirements.

**F 0.00 (<60%)** Represents failure and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an "I" (incomplete).

**I (Incomplete)** The "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances, the student was prevented from completing the work of the course on time. The assignment of an "I" requires a written agreement between the instructor and student specifying the time and manner in which the student will complete the course requirements. No such written agreement may allow longer than one year to satisfy the course requirements. For graduate and professional students, an "I" is to remain on the transcript until changed by the instructor or department. For all other students, work to make up an I must be submitted within one year of the last day of final examinations of the term in which the "I" was given; if not submitted by that time, the "I" will automatically change to an F. **You must have been doing passing work in the course to obtain an incomplete.**

*These items should always match the course requirements.*

## Posting of Grades

*Grades will be posted on CANVAS as I am finished with my evaluation of your work. Expect a one-week turnaround for most assignments. Lengthier assignments (e.g., term papers) may take slightly longer to evaluate.*

## Grading Policies

*Please read these carefully, as I am strict with my policies.*

**Grading Policy and Point Breakdown.** Grades in this course will be criteria-based on a number of activities, including exams, discussions, and projects. This means that grades will not be curved, and anyone achieving 90% or above will receive an A in this course.

**Grade Dispute Policy.** Grading disputes must be put in writing (with justification such as supporting statements from the text or another credible source) and given to me no earlier than 24 hours after the assignment has been returned. I will consider your request carefully but reserve the right to adjust your grade up or down.

**Assignments.** Weekly homework assignments (CANVAS quizzes) are based on each chapter we cover in class. In addition, there may be additional assignments throughout the semester; these will be announced and given sufficient time to complete. All assignments must be turned in on time to the CANVAS website. I will distribute instructions on how to do this. I will not accept e-mail assignments of any kind.

**Late Assignments.** I expect all assignments to be turned in on time. Late assignments interfere with my ability to provide timely, detailed feedback and your ability to learn and process new material. Accordingly, any unauthorized late assignment will receive a 5% reduction in grade for each day it is late. No assignments will be accepted after one week past the due date.

**Exams.** Exams will be administered face-to-face.

The exams will be a mixture of matching, multiple choice, and short answers designed to provoke reflection, critical thought, and application of knowledge. You will receive a list of several sample or real exam questions ahead of time. You are encouraged to prepare for the exam by reviewing reading materials, outlining a response draft, and discussing these thoughts with your peers. You will then demonstrate your individual, integrated thoughts on the topic in a closed-book exam during the class period.

1. There will be no bathroom breaks allowed during any exam. Be sure that you address this issue before beginning an exam.
2. Any student needing to take an exam at a different time than the rest due to sickness or other accommodations will receive a different version of the exam. This includes disease, special accommodations, etc...
3. All students needing special accommodations must submit an accommodation form from the Office of Access and Inclusion listing the specific accommodations needed. Students are responsible for scheduling their own exam times with the TAMUCT Testing Center.
4. Any student missing an exam in class for any other reason (i.e., illness, death in the family, etc.....) must provide documentation for missing the exam (e.g., doctor's note, obituary notices, etc.....). Exams must be made up within one week of the originally scheduled date, with no exceptions.
5. All backpacks, materials, cell phones, smartwatches, and other electronic devices must be turned off and placed at the front of the room on test day.
6. Jackets, sweaters, etc., must be placed in the front of the room on test day unless otherwise indicated by the teacher.

Jackets, sweaters, etc., must be placed in the front of the room on test day unless otherwise indicated by the teacher.

**Accommodated exams.** All students needing special accommodations must submit an accommodation form from the Office of Access and Inclusion (see above) listing the specific accommodations needed. Students are responsible for scheduling their own exam times with the TAMUCT Testing Center.

**Missed exams.** If you know you will miss an exam, please get in touch with me BEFORE. I will gladly give make-up exams if the student has an unavoidable reason for missing the exam (i.e., death in the family, severe illness). Remember that I will expect documentation of why you missed the exam (e.g., doctor's note, obituary notice). Exams must be made up within a week of the originally scheduled date, with no exceptions, regardless of excuse.

## **COURSE OUTLINE AND CALENDAR**

### **Complete Course Calendar**

#### ***Complete Course Calendar – dates are subject to change***

1. *Week of August 28*
  - a. *Lecture Topic: Overview; Early evolutionary ideas*
    - i. *Chapters 1&2*
2. *Week of September 4*
  - a. *Lecture Topic: Natural Selection*
    - i. *Chapter 3*
3. *Week of September 11*
  - a. *Lecture Topic: Phylogeny and Evol. History; Inferring Phylogeny*
    - i. *Chapters 4 and 5*
4. *Week of September 18*
  - a. *Lecture Topic: Inferring phylogeny; Transmission genetics*
    - i. *Chapters 5 and 6*
5. *Week of September 25*
  - a. *Lecture Topic: Exam I Ch 1-5 (Monday) and Transmission Genetics (Wednesday)*
    - i. *Chapter 6*
6. *Week of October 2*
  - a. *Lecture Topic: Genetics of populations; Evolution in finite populations*
    - i. *Chapters 7 and 8*
7. *Week of October 9*
  - a. *Lecture Topic: Evolution in finite populations; Evolution at multiple loci*

- i. Chapters 8 and 9*
- 8. *Week of October 16*
  - a. Lecture Topic: Genome evolution; Origin and Evolution of early life*
    - i. Chapters 10 & 11*
- 9. *Week of October 23*
  - a. Lecture Topic: Exam II Ch 6-10 (Monday); Major transitions (Wednesday)*
    - i. Chapter 12*
- 10. *Week of October 30*
  - a. Lecture Topic: Evolution and development; Species and Speciation*
    - i. Chapters 13 and 14*
- 11. *Week of November 6*
  - a. Lecture Topic: Species and Speciation; Extinction and evolutionary trends*
    - i. Chapters 14 and 15*
- 12. *Week of November 13*
  - a. Lecture Topic: Sex and sexual selection; Evolution of Sociality*
    - i. Chapters 16 and 17*
- 13. *Week of November 27*
  - a. Lecture Topic: Exam III Ch 11 - 15 and evolution of sociality; Coevolution (Wednesday)*
  - b. (Thanksgiving)*
    - i. Chapters 17 and 18*
- 14. *Week of December 4*
  - a. Lecture Topic: Coevolution; Human evolution*
    - i. Chapters 18 and 19*
- 15. *Week of December 11*
  - a. Lecture Topic: Human evolution; Evolution and medicine*
    - i. Chapters 19 and 20*
- 16. *Week of December 11*
  - a. Comprehensive Final Lecture Exam (Wednesday)*

## Important University Dates

<https://www.tamuct.edu/registrar/academic-calendar.html>

## TECHNOLOGY REQUIREMENTS AND SUPPORT

### Technology Requirements

This course will use the A&M-Central Texas Instructure Canvas learning management system. We strongly recommend the latest Chrome, Firefox, Edge, or Safari browsers versions. With a modern web browser, Canvas will run on Windows, Mac, Linus, iOS, Android, or any other device. **Canvas no longer supports any version of Internet Explorer.**

Log-in to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>] by clicking on the "TAMUCT Online Canvas" tile. You will then log in through our Microsoft portal.

Username: Your MyCT e-mail address. Password: Your MyCT password

### Canvas Support

Use the Canvas Help tab at the bottom of the left-hand menu for issues with Canvas. You can search the support articles or use the E-mail, Call, or Chat buttons at the bottom of the support pop-up to contact the Canvas Help Desk.

For issues related to course content and requirements, contact your instructor.

### Online Proctored Testing

Texas A&M University-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are Any computer meeting the minimum computing requirements, plus a web camera, speaker, and microphone (or headset). Proctorio requires using the Chrome web browser with its custom plug-in installed.

### Other Technology Support

For log-in problems, students should contact Help Desk Central, 24 hours a day, seven days a week.

E-mail: [helpdesk@tamu.edu](mailto:helpdesk@tamu.edu)

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [<http://hdc.tamu.edu>]

*Please let the support technician know you are an A&M-Central Texas student.*

---

## UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

### Warrior Center for Student Success

The Warrior Center for Student Success is a comprehensive academic support department at A&M-Central Texas, dedicated to fostering an environment of excellence and empowerment

among its student body. The center offers various programs and services to ensure every student reaches their full potential. It is a haven for students seeking guidance, resources, and a strong support network to excel in their educational journey.

**ADA Access and Accommodations:** Texas A&M University-Central Texas ensures that students with disabilities have equal educational opportunities by providing appropriate accommodations and support services. If you believe you have a physical, learning, or socio-emotional disability requiring reasonable accommodations, please visit [Access and Inclusion](https://www.tamuct.edu/student-affairs/access-inclusion.html) [https://www.tamuct.edu/student-affairs/access-inclusion.html] for more details or contact the Office of Access and Inclusion, WH-212; (254) 501-5836. Any information you provide is private and confidential.

**Success Coaching and Peer Mentoring:** Our experienced Success Coaches work one-on-one with students to develop personalized action plans, set academic goals, and build effective study strategies, time management skills, and resilience. Our Peer Mentors provide a valuable support system, offering guidance, encouragement, and a relatable perspective to help students navigate their academic and personal challenges. For more details, call 254-501-5836 or 254-501-5928 or visit [Academic Support](https://www.tamuct.edu/student-affairs/academic-support.html) [https://www.tamuct.edu/student-affairs/academic-support.html]. Click the link to schedule a session (virtual or in-person) with a success coach [bit.ly/3q7uB50](https://bit.ly/3q7uB50) or visit WH, 111.

**Testing Services:** We offer a secure and comfortable environment for students and community members to take courses, distance learning exams, placement tests, and professional certification exams. Our Testing Service also offers resources and support referrals for testing-related challenges (test anxiety, learning disabilities, etc.) and supports all approved ADA accommodations. Call (254) 519-5830 or visit the [Testing Center](https://www.tamuct.edu/testing-center/) [https://www.tamuct.edu/testing-center/].

**Tutoring and Supplemental Instruction Services:** Our team of qualified Tutors and Supplemental Instructors assist students in various non-writing subjects, promoting academic comprehension and enhancing learning outcomes. Click the link to schedule a tutoring session with a TAMUCT tutor (virtual or in-person) or view tutor availability [bit.ly/43Q6wNz](https://bit.ly/43Q6wNz). You may also chat live with a remote tutor 24/7 for a variety of subjects through our partnership with Tutor.com, an online tutoring platform that is free to all TAMUCT students. To learn more, please visit [Tutoring Services](https://www.tamuct.edu/student-affairs/academic-support.html#tutoring) [https://www.tamuct.edu/student-affairs/academic-support.html#tutoring] or call (254) 501-5836 or visit the Tutoring Hub in Warrior Hall, 111.

### **Academic Integrity**

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade



for the course. All academic misconduct concerns will be referred to the Student Conduct Office. When you doubt collaboration, citation, or any issue, please get in touch with your instructor before taking action.

For more information regarding the [student conduct process](https://www.tamuct.edu/student-affairs/student-conduct.html), [https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may [submit a referral](https://cm.maxient.com/reporting.php?TAMUCentralTexas) [https://cm.maxient.com/reporting.php?TAMUCentralTexas].

## **Drop Policy**

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web.

[https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpid=https://eis-prod.ec.tamuct.edu:443/samlssso&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart%2f53b8369e-0502-4f36-be43-f02a4202f612].

Faculty cannot drop students; this is always the student's responsibility. The Records and Admissions Office will provide a deadline on the Academic Calendar for completing the form. Once you submit the completed form to the Records and Admissions Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show up as enrolled, FOLLOW UP with the Records and Admissions Office immediately. You are to attend class until the procedure is complete to avoid a penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and VA educational benefits.

## **Pregnant and Parenting Students' Rights and Accommodations**

Texas A&M University-Central Texas supports pregnant students experiencing pregnancy-related conditions and parenting. In accordance with requirements of [Title IX and related guidance from US Department of Education's Office of Civil Rights](#), the Associate Dean in the Division of Student Affairs, (254) 501-5909, can assist students who are pregnant, experiencing pregnancy-related conditions, and/or parenting by providing flexible and individualized reasonable accommodations. Students should seek out assistance as early in the pregnancy as possible through the [Pregnancy & Parenting webpage](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. If you would like to read more about these [requirements and guidelines](#) online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

[Title IX of the Education Amendments Act of 1972](#) specifically prohibits discrimination against a student based on pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of these conditions [https://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.html].

Students experiencing any form of discrimination due to any of these conditions are encouraged to reach out to the Title IX Coordinator, 254.519.5716, [titleix@tamuct.edu](mailto:titleix@tamuct.edu), Founders Hall 317B, or the Associate Dean of Student Affairs, 254.501.5909, Warrior Hall 105.

### **Title IX Rights and Reporting Responsibilities**

Texas A&M University-Central Texas is committed to creating a safe and open learning environment for all students. If you or another student has experienced gender discrimination or sexual misconduct, including sexual harassment, sexual assault, dating/domestic violence, and/or sex-based stalking, help and support are available. Our university strongly encourages all members of our campus community to report incidents and seek support for gender discrimination and sexual misconduct through the Title IX Office. You may contact the Title IX Office at 254.519.5716, [titleix@tamuct.edu](mailto:titleix@tamuct.edu), Founders Hall 317B, or learn more by visiting the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [https://www.tamuct.edu/compliance/titleix.html].

Please be aware that that under [Title IX](#), [Texas Senate Bill 212](#), and [System Regulation 08.01.01](#), [https://policies.tamus.edu/08-01-01.pdf] all university employees are mandated reporters and are required to disclose information about suspected or alleged violations as listed above,, and defined in System Regulation 08.01.01. If the Title IX Office receives information about an incident, they will reach out to offer information about resources, rights, and procedural options as a member of the campus community. Although I have an obligation to report, you will, in most cases, control how your case will be handled. When working with the Title IX Office you will have access to resources and accommodations but also have the opportunity to express if you wish to move forward with an investigation. Our goal is to make sure you are aware of the options available to you as a student. Community members are not required to respond to this outreach.

Suppose you or another student wishes to speak to a confidential employee who does not have this reporting responsibility. In that case, you can contact the [Student Wellness & Counseling Center](#), [https://www.tamuct.edu/student-affairs/student-counseling.html], 254.501.5955, or [swacc@tamuct.edu](mailto:swacc@tamuct.edu), located in Warrior Hall Room 207L or the Student Support Advocate, 254.501.5978 or [ssa@tamuct.edu](mailto:ssa@tamuct.edu), located in founder Hall Room 317D.

### **University Library & Archives**

The University Library & Archives provides many services in support of research across campus and at a distance. We offer over 350 electronic databases containing approximately 1,203,947 eBooks and 134,750 journals, in addition to the 96,879 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. The library offers technology on campus, including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance and may occur virtually through WebEx, Microsoft Teams, or in person at the library. [Schedule an appointment here.](#)

[<https://tamuct.libcal.com/appointments>]. Assistance may cover many topics, including how to find articles in peer-reviewed journals, cite resources, and piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group workspaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](#).

[<https://tamuct.libguides.com/index>]

### **University Writing Center**

Located in Warrior Hall 416 and online, the University Writing Center (UWC) at Texas A&M University–Central Texas (A&M–Central Texas) is a free service open to all A&M–Central Texas students. The face-to-face hours of operation are from 10:00 am-5:00 pm Monday and Thursday in Warrior Hall 416. Online tutoring is available Monday thru Thursday from 10:00 am-5:00 pm and from 6:00–9:00 pm, and on Saturdays from 12:00–3:00 pm.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via [WOnline](#) [<https://tamuct.mywconline.com/>]. In addition, you can e-mail Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto:bruce.bowles@tamuct.edu) if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

### **OTHER POLICY STATEMENTS**

#### **A Note about Sexual Violence at A&M-Central Texas**

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Wellness and Counseling (254-501-5955), located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. We must find ways to actively create environments that tell predators we disagree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources, visit the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [<https://www.tamuct.edu/compliance/titleix.html>].

### **Behavioral Intervention**

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, please make a referral to the Behavioral Intervention Team. Referring to your concern shows you care. You can complete the [referral](#) online.

[<https://cm.maxient.com/reporting.php?TAMUCentralTexas>].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](#) website for more information [<https://www.tamuct.edu/bit>]. If a person's behavior threatens you or another, contact 911 or A&M-Central Texas University Police at 254-501-5805.

---

### **Copyright Notice**

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

Copyright. 2023 by Dr. Onadia Cabrera-Mora at Texas A&M University-Central Texas, College of Arts and Sciences; 1001 Leadership Place, Killeen, TX 76549; Fax 254-519-5781; [o.cabrera@tamuct.edu](mailto:o.cabrera@tamuct.edu)

## BIOL 4380 Evolution Term Paper

**Assignment:** Write an 8–10-page paper on one of the topics listed below (topics may not be duplicated – to be determined on a first-come, first-served basis).

**\*Go through the *writing in the Biological Sciences* tutorials in CANVAS to help you with your outline/annotated outline, writing your term paper, and citations\***

**General:** Remember that the audience for this paper is a college-educated biologist, so straightforward terms need not be defined. However, proper use of citations is expected (CSE format). I expect you to proofread your papers for any spelling and grammar mistakes, as I will take off points for this. If you need help writing, feel free to take advantage of the wonderful people at the TAMUCT writing center, be sure to make an appointment first, and do not wait until the last minute!

*\*\*Be assured that the university has a strict policy on plagiarism and cheating. I will uphold that policy, and anyone caught conducting academic dishonesty will receive a zero – consider yourself warned!\*\**

**Research:** I expect you will research your topic using the library, the internet, your textbook, and professional journals. Use primary and secondary sources, not just the internet (I will take off points if your sources are from the internet). Be very careful when reading information not from a peer-reviewed source (i.e. not professional journals) because many groups/people tend to post information that serves their particular agenda and is not necessarily scientifically correct (I have seen several). If you use one of these sources, I expect you will check the validity of their facts with primary sources.

Be sure to introduce and define your topic broadly first, then give more detail and examples to demonstrate your points. You should also end with a summary section that neatly ties the paper together. Tables, figures, and pictures are to be on **separate pages** at the end of the paper (after references); they are not to be inserted into the pages of text.

### **Text Format guidelines (I will be strict about this):**

1. Double-spaced lines (except for literature cited, which should be single-spaced)
2. 1-inch margins (check this, most defaults are 1.5; you can change it in page setup)
3. Times New Roman font, size 12
4. No space between paragraphs
5. No page breaks between sections

**Citations:**

Please use the Council of Scientific Editors (CSE) "**Author, Year**" citation style for your writing: <https://writing.wisc.edu/handbook/documentation/doccse/nameyear/>

Reference the Citing References tutorial in your CANVAS shell.

**Other miscellaneous:**

The following hints will improve your writing:

1. Avoid long run-on sentences. We are trying to write concisely and clearly. Don't use twelve-letter words when simpler ones will do just fine.
2. Genus and species names in Latin are always italicized or underlined. Only the first letter of the genus is capitalized. Ex. *Homo sapiens*, *Danaus plexippus*, etc...
3. Write numbers as numerals when they are associated with measurement units (2 km), and spell them out only for numbers < 10 (e.g., five hamsters; 20 geese). Always spell out a number if it is the first word of a sentence.
4. DON'T use quotes. Follow the advice of Ralph Waldo Emerson, who said, "I hate quotations. Tell me what you know." Instead, paraphrase the author and cite him/her. Quotes interrupt the flow of your text.
5. Do not use contractions in formal writing.
6. Scientific writing is formal communication. Don't use conversational language, colloquialisms, or slang.
7. Proofread, proofread, proofread!
8. Some frequently misused/misspelled words (spell check will not catch most of these):
  - a. Affect/effect "Effect" is a noun (usually). "Effect" is always a verb. "The effect of their misuse will be that your grade will be affected by subtracting five points."
  - b. it's/its "It's" is the conjunction "it is." "Its" is the possessive form
  - c. their/there/they're. I assume this is just carelessness; proofread your paper.
  - d. Between/among Between refers to two things, while among refers to more than two.
  - e. Fewer/less Use "fewer" if you can count the items and "less" if you can't. (less water, but fewer boats)
  - f. amount/number Use 'amount' if you can't count them, "number" if you can. (The amount of sand and the number of rocks)
  - g. oftentimes Drop the "times"; it's redundant.
  - h. Different from / different than Different from is correct; other than is not.
  - i. than/then "than" refers to a comparison – proofread your paper for mix-ups
  - j. The word data is plural, and the word datum singular

**Suggested Research Topics:** \*Every topic must be cleared with Dr. Cabrera-Mora first!\*

- Pick a species of interest (NOT HUMANS) that you don't know much about or are interested in) and write about it from an evolutionary perspective.
  - What is the classification hierarchy of your organism?
  - When did it first appear on Earth; how do you know?

- Discuss its close relatives (hint: that would be the next branch on the tree with which it shares a common node). How are they related/similar? How did they diverge?
- Where does your organism live? How is it adapted to its environment?
- Does your organism form a symbiotic relationship with another organism? Explore.
- Pick a major evolutionary theory or topic and explore the literature to either support or not support that theory (e.g., Red Queen Hypothesis, Run-away selection, Coevolution)
  - Fully discuss the theory or topic as it is currently known
  - Explore examples in literature that provide evidence for/against
  - Discuss implications of theory or topic across different species

### Term Paper Grading

Topic Approval (5%)	_____	Due September 11, 2023
First Paper Outline (5%)	_____	Due September 25, 2023
Annotated outline (15%) (includes citations)	_____	Due October 16, 2023
First Submission (25%) (Note: this is not a "rough" draft! You are expected to have a full paper submitted)	_____	Due November 6, 2023
Final Submission (50%)	_____	Due December 4, 2023

*See the next page for Term Paper Rubric.*

Category	Exceeds expectations	Meets expectations	Below expectations	Does not meet expectations	Score
<b>Introduction</b>	Thoroughly addresses the topic. Engages reader. Logical progression from broad to narrow topic. Clearly states main topic and previews structure of paper.	The introduction states the main topic and previews the structure of the paper.	The introduction states the main topic but does not adequately preview the structure of the paper.	There is no clear introduction or main topic and the structure of the paper is missing.	10.0%
<b>Thesis Statement</b>	Clearly and concisely states the paper's purpose in single sentence. Engaging and thought provoking.	Clearly and concisely states the paper's purpose in single sentence.	States the paper's purpose in a single sentence.	Incomplete statement or confusing.	5.0%
<b>Body</b>	Each paragraph has thoughtful supporting detail sentences that develop the main idea.	Each paragraph has sufficient supporting detail sentences that develop the main idea.	Each paragraph lacks supporting detail sentences.	Each paragraph fails to develop the main idea.	35.0%
<b>Organization/Structural Development of Topic</b>	Writer demonstrates logical and subtle sequencing of ideas through well-developed paragraphs; transitions are used to enhance organization.	Paragraph development present but not perfected.	Logical organization; organization of ideas not fully developed.	No evidence of structure or organization.	5.0%
<b>Depth of discussion</b>	In-depth discussion & elaboration in all sections of the paper.	In-depth discussion & elaboration in most sections of the paper.	Omission of pertinent content or content runs-on excessively. Quotations from others outweigh the writer's own ideas.	Cursory discussion in all the sections of the paper or brief discussion in only a few sections.	10.0%
<b>Conclusion</b>	The conclusion is engaging and restates the thesis. Relates topic back to 'real world' applications.	The conclusion restates the thesis.	The conclusion does not adequately restate the thesis.	Incomplete statement or confusing.	10.0%
<b>Spelling/Punctuation</b>	No errors in punctuation, capitalization and spelling.	Almost no errors in punctuation, capitalization and spelling.	Many errors in punctuation, capitalization and spelling.	Numerous and distracting errors in punctuation, capitalization and spelling.	2.5%
<b>Grammar</b>	No errors sentence structure and word usage.	Almost no errors in sentence structure and word usage.	Many errors in sentence structure and word usage.	Numerous and distracting errors in sentence structure and word usage.	2.5%
<b>In-text citations</b>	All facts are cited using primary literature or peer sources. Correct format with no errors	Some facts are cited. Correct format, very few errors.	Few facts are cited. Correct format, few errors	No in-text citations.	5.0%
<b>Literature cited</b>	Done in the correct format with no errors. Includes more than 10 major references (e.g. peer reviewed science journal articles, books, and no more than professional two internet sites. No encyclopedic type references).	Done in the correct format with few errors. Includes more than 5 major references (e.g. peer reviewed science journal articles, books, and no more than professional two internet sites. No encyclopedic type references).	Done in the correct format with some errors. Includes more than 3 major references (e.g. peer reviewed science journal articles, books, and no more than professional two internet sites. No encyclopedic type references).	Done in the correct format with many errors. Includes more than 0-3 major references (e.g. peer reviewed science journal articles, books, and no more than professional two internet sites. No encyclopedic type references).	5.0%
<b>Figures and tables</b>	Tables/figures numbered consecutively in separate series. Title is complete enough to be understood without referring to text. Legend, headings, and units of measure are included. Footnotes used as necessary to provide clarity with respect to:Units of measure that do not fit in the heading, explanations of abbreviations and symbols, statistical significance of entries.	Tables/figures numbered consecutively in separate series Title is complete. Legend, headings, and units of measure are included. Footnotes used to provide clarity.	Tables/figures numbered, but not sequentially. Title is incomplete. Legend, headings, and units of measure are not fully included. Footnotes used but do not provide enough clarity	Tables/figures not numbered. No title. Legend, headings, and units of measure are not included. Footnotes are not used but are needed.	10.0%
<b>Total</b>					100.0%