

**BIOL-4471-110, CRN 80363, Molecular Biology
Fall 2020 (August 24- December 13)
Texas A&M University-Central Texas**

COURSE DATES, MODALITY, AND LOCATION

BIOL-4471 is a 16-week Synchronous and Asynchronous online combined lecture and laboratory course *with supplemental materials made available online through the A&M-Central Texas Canvas Learning Management System* [<https://tamuct.instructure.com/>].

Tuesday: (8:00 am - 9:15 am, Lecture online);

Thursday: (8:00 am - 9:15 am, Lecture Heritage Hall 315);

Thursday; Heritage Hall 315 (Lab) 11:15 am - 2:15 pm

INSTRUCTOR AND CONTACT INFORMATION

**Instructor: M. Nasir Uddin, PhD, FAHA
Office: Adjunct Faculty Office
Phone: 254-563-9488
Email: uddin65@tamuct.edu**

Office Hours

10:45 am – 11: 15 am TR

Student-instructor interaction

Primary Student-instructor interaction will be via email. Students' emails will be checked and be responded daily.
Fall 2020
Texas A&M University-Central Texas

WARRIOR SHIELD

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

Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by [911Cellular](https://portal.publicsafetycloud.net/Account/Login) [<https://portal.publicsafetycloud.net/Account/Login>] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

COVID-19 SAFETY MEASURES

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University-Central Texas has adopted policies and practices to minimize virus transmission. All members of the university community are expected to adhere to these measures to ensure their own safety and the safety of others. Students must observe the following practices while participating in face-to-face courses, course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.) and co-curricular programs:

- Self-monitoring—Students should follow CDC recommendations for self-monitoring. Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely and should not participate in face-to-face instruction. Students required to quarantine must participate in courses and course-related activities remotely and must not attend face-to-face course activities. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities.
- Face Coverings— Face coverings must be worn inside of buildings and within 50 feet of building entrances on the A&M-Central Texas Campus. This includes lobbies, restrooms, hallways, elevators, classrooms, laboratories, conference rooms, break rooms, non-private office spaces, and other shared spaces. Face coverings are also required in outdoor spaces where physical distancing is not maintained. The university will evaluate exceptions to this requirement on a case by case basis. Students can request an exception through the Office of Access and Inclusion in Student Affairs.
 - o If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the Office of Student Conduct. Additionally, the faculty member may choose to teach that day's class remotely for all students.
- Physical Distancing—Physical distancing must be maintained between students, instructors, and others in the course and course-related activities.
- Classroom Ingress/Egress—Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Leave classrooms promptly after course activities have concluded. Do not congregate in hallways and maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.
- The university will notify students in the event that the COVID-19 situation necessitates changes to the course schedule or modality.

COURSE INFORMATION

Course Overview and description: A study of aspects and techniques of modern molecular biology with an emphasis on prokaryotic and eukaryotic gene: structure, function, expression and regulation at transcriptional and post-transcriptional levels. It also incorporates elements of biochemistry, immunology and proteomics that further facilitates understanding of gene function. Three hours of lecture and three hours of laboratory session each week. Prerequisite: BIOL 1407, BIOL 4470

Student Learning Outcomes (SLOs)

Students will:

1. have a clear understanding of the experimental methods used to elucidate the current main theories of molecular biology.
2. understand the molecular/biochemical mechanisms of transcription in both prokaryotes and eukaryotes.
3. be familiar with post-transcription events
4. demonstrate knowledge of mechanism that controls translation
5. have clear understanding of mechanism of DNA replication
6. understand biochemical/molecular basis of homologous recombination
7. be introduced to the rapidly growing fields of genomics and proteomics

Competency Goals Statements (certification or standards)

Required Reading and Textbook(s)

- a. Zlatanova, J. and van Holde K. E. 2016. Molecular Biology: Structure and dynamics of genomes and proteomes. Garland Publishing. ISBN: 978-0815345046
- b. Carson, S., Miller, H., and Witherow, S. 2012. Molecular Biology Techniques: A classroom Laboratory Manual, 3rd edition. Academic Press. ISBN: 978-0123855442

COURSE REQUIREMENTS

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

- Three lecture exams 45%
Exam 1 (15%); SLOs 1 - 2
Exam 2 (15%); SLOs 2 - 4
Exam 3 (15%); SLOs 2 - 7
- Final Comprehensive Exam 25%
SLOs Demonstrate coherent understanding of comprehensive molecular biological concepts
- Laboratory reports 25%
SLOs 1 - 7

- Participation 5%
Attend and actively participate lecture and laboratory class
- Total 100%

Mandatory Laboratory Safety Training:

- All Students are **required** to take the mandatory Laboratory Safety Training Module -found on in your [Modules tab](#) in CANVAS.
- You must take the training and **bring the signed “Safety Agreement Form”** to your instructor **before you are allowed in lab!!!**
- The is **YOUR RESPONSIBILITY** – any lab absences because you have not taken the training will be considered **unexcused!**

Grading Criteria Rubric and Conversion

The **final grade** will be calculated from combining points from: Three lecture exams (45% of final grade), final comprehensive exam (25% of final grade), laboratory reports (25% of final grade) and participation (5% of final grade)

Grading scheme

A 4.00 (90% +) Achievement that is outstanding relative to the level necessary to meet course requirements.

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

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

D 1.00 (60-69%) Achievement that is worthy of credit even though it fails to meet fully 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 student that 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 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. In no event may any such written agreement allow a period of longer that one year to complete the course requirements. For graduate and professional students, an “I” is to remain in the transcript until changed by 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 give; if not submitted by that time, then the “I” will automatically change to F. ***To obtain an incomplete you must have been doing passing work in the course.***

Posting of Grades

The grades will be posted promptly on canvas grade book.

COURSE OUTLINE AND CALENDAR

The following schedule gives the estimated chapters and problems that will be covered each week. Modification and corrections may be made during the course of the semester.

Week	Topic	Reading	Laboratory Topic
1 (August 24)	Introduction, Genetics, Proteins	Ch 1, 2, 3	Safety Training, BSA Serial Dilutions, NC Spot Test
2 (August 31)	Proteins, Nucleic Acids	Ch 3, 4	Purification & Digestion of Plasmid DNA (Lab report 1)
3 (September 7)	Recombinant DNA	Ch 5	PCR Amplification of <i>egfp</i> from pEGFP-N1; PCR Clean-up & visualization(Lab report 2)
4 (September 14)	Protein-Nucleic Acid Interaction, Genetic Code	Ch 6, 7	Purification of insert DNA (<i>egfp</i>) PCR product
5 (September 21)	Physical Structure	Ch 8	DNA ligation
	EXAM 1		
6 (September 28)	Transcription	Ch 9, 10	Ligation
7 (October 5)	Regulation of Transcription	Ch 11, 12	Ligation check (Lab report 3)
8 (October 12)	RNA Processing, Translation	Ch 14, 15	<i>E. coli</i> growth condition (Lab report 4)
9 (October 19)	Translation: The Process	Ch 16	Protein extraction/ Western Blot (Part 1)
	EXAM 2		
10 (October 26)	Regulation of Translation	Ch 17	Western Blot (Part 2) (Lab report 5)
11(November 2)	Protein Processing and Modification	Ch 18	The effect of kanamycin for the LacZ expression; RNA extraction (PART1)
12 (November 9)	DNA Replication in Bacteria	Ch 19	The effect of kanamycin for the LacZ expression; real-time PCR (PART2)
	EXAM 3		
13 (November 16)	DNA Replication in Eukaryotes	Ch 20	EXPERIMENT 14/ LacZ mRNA expression in different sugar content in minimal media /Western Blot (PART3)
14 (November 23)	DNA Replication in Eukaryotes, DNA Recombination	Ch 20, 21	Thanksgiving
15 (November 30)	DNA Recombination, DNA Repair	Ch 21, 22	EXPERIMENT 14/ LacZ mRNA expression in different sugar content in minimal media /Western Blot (Part 4) (Lab report 6)
16 (December 7)	Final Exam		

Important University Dates

Date	Description
August 10, 2020	Classes Begin for Minimester
August 21, 2020	Classes End for Minimester
August 24, 2020	Classes Begin for Fall Semester
August 24, 2020	Add, Drop, and Late Registration Begins for 16- and First 8-week Classes \$25 Fee assessed for late registrants
August 26, 2020	Deadline for Add, Drop, and Late Registration for 16- and First 8-week
August 31, 2020	Deadline to Drop First 8-week Classes with No Record
September 7, 2020	Labor Day (University Closed)
September 9, 2020	Deadline to drop 16-week Classes with No Record
October 1, 2020	Deadline for Teacher Education and Professional Certification Applications
October 2, 2020	Deadline to Drop First 8-week Classes with a Quit (Q) or Withdraw (W)
October 15, 2020	Deadline for Clinical Teaching/Practicum Applications
October 16, 2020	Classes End for First 8-week Session
October 16, 2020	Deadline to Withdraw from University for First 8-Week Classes (WF)
October 19, 2020	Add, Drop, and Late Registration Begins for Second 8-Week Classes \$25 Fee assessed for late registrants
October 19, 2020	Classes Begin for Second 8-Week Session
October 19, 2020	Class Schedule Published for Spring Semester
October 20, 2020	Deadline for Faculty Submission of First 8-Week Class Final Grades (due by 3pm)
October 21, 2020	Deadline for Add, Drop, and Late Registration for Second 8-Week Classes

Date	Description
October 23, 2020	Deadline for Graduation Application for Ceremony Participation
October 26, 2020	Deadline to Drop Second 8-Week Classes with No Record
November 2, 2020	Registration Opens for Spring Semester
November 6, 2020	Deadline to Drop 16-Week Classes with a Quit (Q) or Withdraw (W)
November 11, 2020	Veteran's Day (University Closed)
November 26-27, 2020	Thanksgiving (University Closed)
November 27, 2020	Deadline to Drop Second 8-Week Classes with a Quit (Q) or Withdraw (W)
December 11, 2020	Deadline for Applications for Tuition Rebate for Fall Graduation (5pm)
December 11, 2020	Deadline for Degree Conferral Applications to the Registrar's Office \$20 Late Application Fee
December 11, 2020	Deadline to Withdraw from University for 16- and Second 8-Week Classes
December 11, 2020	Fall Semester Ends
December 11, 2020	Fall Commencement Ceremony
December 15, 2020	Deadline for Faculty Submission of 16-Week and Second 8-Week Final Class Grades (due by 3pm)
December 24, 2020 - January 1, 2021	Winter Break (University Closed)

TECHNOLOGY REQUIREMENTS AND SUPPORT

This course will use Canvas Learning management system.

Technology Requirements

This course will use the A&M-Central Texas Instructure Canvas learning management system.

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

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select "Chat with

Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953. For issues related to course content and requirements, contact your instructor.

Other Technology Support

For log-in problems, students should contact Help Desk Central
24 hours a day, 7 days a week

Email: 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.

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

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

Online Proctored Testing

A&M-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 web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

Other Technology Support

For log-in problems, students should contact Help Desk Central

24 hours a day, 7 days a week

Email: 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

Drop Policy

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

[<https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-46928168bc10&targetUrl=https%3A%2F%2Fdynamicforms.ngwebsolutions.com%2FSubmit%2FForm%2FStart%2F53b8369e-0502-4f36-be43-f02a4202f612>].

Faculty cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid 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/or VA educational benefits.

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. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student's academic performance and includes, but is not limited to, working with others in an unauthorized manner, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student's work, collusion, and the abuse of resource materials. All academic misconduct concerns will be referred to the university's Office of Student Conduct. Ignorance of the university's standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

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

If you know of potential honor violations by other students, you may [submit a report](#),

[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students

with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information please visit our [Access & Inclusion](https://tamuct.instructure.com/courses/717) Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/index.html) [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) 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 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, on a remote online basis. Visit the Academic Support Community in Canvas to view schedules and contact information. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors will return at the Tutoring Center in Warrior Hall, Suite 111 in the Fall 2020. Student success coaching is available online upon request.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, success coaching, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu .

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

University Writing Center

The University Writing Center (UWC) at Texas A&M University–Central Texas (TAMUCT) is a free service open to all TAMUCT students. For the Fall 2020 semester, all services will be online as a result of the COVID-19 pandemic. The hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday with satellite hours online Monday thru Thursday from 6:00-9:00 p.m. The UWC is also offering hours from 12:00-3:00 p.m. on Saturdays.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. 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. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. 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 [WCOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC and/or need any assistance with scheduling.

University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 85,000 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. On campus, the library offers technology 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 take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to 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 work spaces, 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](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index].

For Fall 2020, all reference service will be conducted virtually. Please go to our [Library website](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index] to access our virtual reference help and our current hours.

OPTIONAL 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 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. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree 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 your concern shows you care. You can complete the [referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2) online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/student-affairs/bat.html) website for more information [https://www.tamuct.edu/student-affairs/bat.html]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5800.

OTHER POLICIES

If you have concerns about copyright protection of your syllabus or course materials, consider adding the following notice

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. (*YEAR*) by (*FACULTY NAME*) at Texas A&M University-Central Texas, (*FACULTY COLLEGE*); 1001 Leadership Place, Killeen, TX 76549; 254-(*FACULTY COLLEGE PHONE*); Fax 254-(*FACULTY COLLEGE FAX*); (*FACULTY EMAIL*)

Laboratory Report Rubric

Category	Exceeds expectations	Meets expectations	Below expectations	Does not meet expectations	Score
Introduction	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%
Thesis Statement	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%
Body	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%
Organization/Structural Development of Topic	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%
Depth of discussion	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%
Conclusion	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%
Spelling/Punctuation	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%
Grammar	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%
In-text citations	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%
Literature cited	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%
Figures and tables	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%
Total					100.0%

BIOL-4471-110, CRN 80363, Molecular Biology

Syllabus Contract

Directions:

- First, read the syllabus.
- Second, read the statement below to confirm your personal reading and understanding of the contents of the syllabus.
- Third, provide confirmation by printing the document and providing your signature and date of completion in the space provided below.
- Last, submit this contract to me. Note that your grade for the first assignment will not be calculated until this contract is received.

I have received a copy of the syllabus. I have read and understand the policies of this course as stated in the syllabus.

Print Name _____

Signature _____

Date _____