

Exercise Physiology II



Course Syllabus | KINE 5315 | Fall 2021



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T/W/R 12:30-1:50 p.m. or by appointment
Appointments also available by phone or Zoom

Important Dates

Classes Begin
August 23

Census Date
September 3

Labor Day
September 6

Last Day to File for
Fall Graduation
October 1

Last Day to Drop
November 1

Last Day to Schedule
Thesis Defense
November 5

Last Day to Submit
Completed Thesis
November 19

Thanksgiving
November 22-26

Study Day
December 6

Final Exam Week
December 7-11

Course Information

About This Course

The purpose of this course is to provide students with an advanced study of cardiovascular and respiratory physiology and their responses to acute and chronic exercise. This course will review the physiological mechanisms responsible for the cardiovascular adjustments to orthostasis and will describe in detail the central and peripheral cardiovascular adjustments to acute exercise and adaptations to chronic exercise training. The course will also review the ventilatory responses to exercise.

Student Learning Outcomes

Students who successfully complete this course will be able to:

1. Describe the cardiovascular regulatory mechanisms responsible for adjustments in cardiac output and systemic blood pressure at rest and in response to exercise;
2. Describe the mechanisms responsible for the redistribution of cardiac output during dynamic exercise;
3. Analyze the cardiovascular and respiratory responses to acute exercise with respect to potential limitations in exercise performance;
4. Explain the mechanisms of cardiovascular and respiratory adaptations to chronic bouts of exercise and inactivity;
5. Analyze the cardiovascular and respiratory responses to chronic exercise in terms of optimization of health and performance;
6. Critically read and discuss research literature related to cardiovascular and respiratory exercise physiology.

*More specific learning outcomes will be provided in each learning module.

Prerequisites

Although there is no official prerequisite for this course, it is assumed that every student has successfully completed courses in *Anatomy & Physiology* and in *Exercise Physiology* at the undergraduate level. Though not required, ideal preparation for this class would also include other undergraduate science courses such as physics, chemistry, and/or biochemistry.

Course Structure

Course Website



Course content will be delivered through **Canvas**. You can access Canvas through the UT Tyler Logins link at the top of the UT Tyler main website (you will need your ID and password). Important class resources, including the syllabus, course schedule, announcements, and external links, as well as the learning modules will be accessed here. The **GETTING STARTED** tab on the course Home page will explain the different functions you will use in this class.

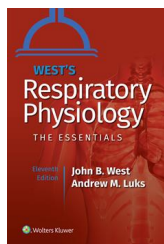
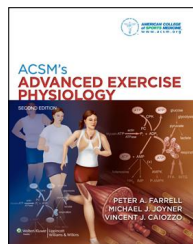
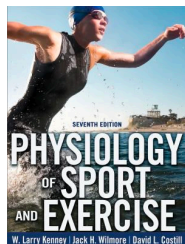
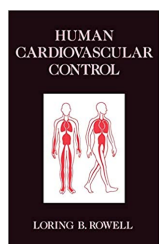
The content of this course is organized into modules and will be accessed in the **Modules** tab in Canvas. Within each *module*, you will find learning objectives, assigned readings, and recorded lectures and/or videos associated with the reading assignments. Discussion topics, quizzes, and exams will also be found here.

Course Format



This class is very similar to a traditional on-campus class in that it will consist of recorded lectures, readings, review of research literature, discussions, written assignments, quizzes, and/or exams. In contrast to a traditional on-campus class, assignments in this course can be completed **asynchronously**. In other words, there will be no scheduled meeting times in this class. You may access course content and complete assignments at your convenience, though you still must meet assignment and testing deadlines.

Course Materials



Textbook: There is **no required textbook** for this course. A good exercise physiology textbook may be helpful, particularly if you need a refresher on the basics of cardiovascular and/or respiratory physiology. The texts on the left are excellent resources. Details for each will be provided in Canvas.

Assigned readings: Readings from review articles and/or original research papers will be assigned in each weekly module. Some of the assigned readings may be difficult to understand if you do not have the appropriate scientific background. An exercise physiology text should provide the appropriate background for a better understanding of the assigned articles. If not, you will need to consult additional resources.

Minimum technological requirements can be found in the **UT Tyler Student Resources** link in the **GETTING STARTED** module in Canvas. Exams will be proctored by **ProctorU**; therefore, you must have access to a **computer, webcam, microphone, and high-speed internet** to complete the exams. These are also available at the library and computer labs.

Course Communication



Email

Instructors are required to use your Patriots account e-mail address for e-mail correspondence. Therefore, any e-mail message originating from me will be sent to your Patriots account. You can send me email from either your Patriots account or through Canvas.

Emails should include

- ✓ First and last name
- ✓ KINE 5315 and section #
- ✓ Proper punctuation

I will

- ✓ Check email regularly on weekdays
- ✓ Try to respond within 24-48 hours
- ✓ Respond only to your Patriots email

I will not

- ✓ Respond immediately to emails, especially on the weekends
- ✓ Send grades through email



canvas

Canvas

All course material, assignments, announcements, and reminders will be posted in the **Canvas** course page. It is your responsibility to check the course page. Announcements can be accessed by clicking on the Announcements tab in the navigation window on the left side of the page. An email of each announcement will also be sent out to your Patriots email account.

IT Support



If you experience technical problems with this course or Canvas, you can obtain assistance by contacting the **UT Tyler 24/7 Canvas Support**. This can be accessed by clicking **Help** at the bottom of the Global Navigation Menu on the far left side of the browser window in Canvas.

If you are experiencing login/password problems or need support for other technical issues, contact Campus Computing Services in the Business Building [BUS 101], by phone at 903-565-5555, or by email at itsupport@uttyler.edu.

Copyright

All handouts used in this course, including those delivered via Canvas, are copyrighted. The term "handouts" refers to all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, assignment sheets, recorded lectures, outlines, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission.

Course Grading

► Exams

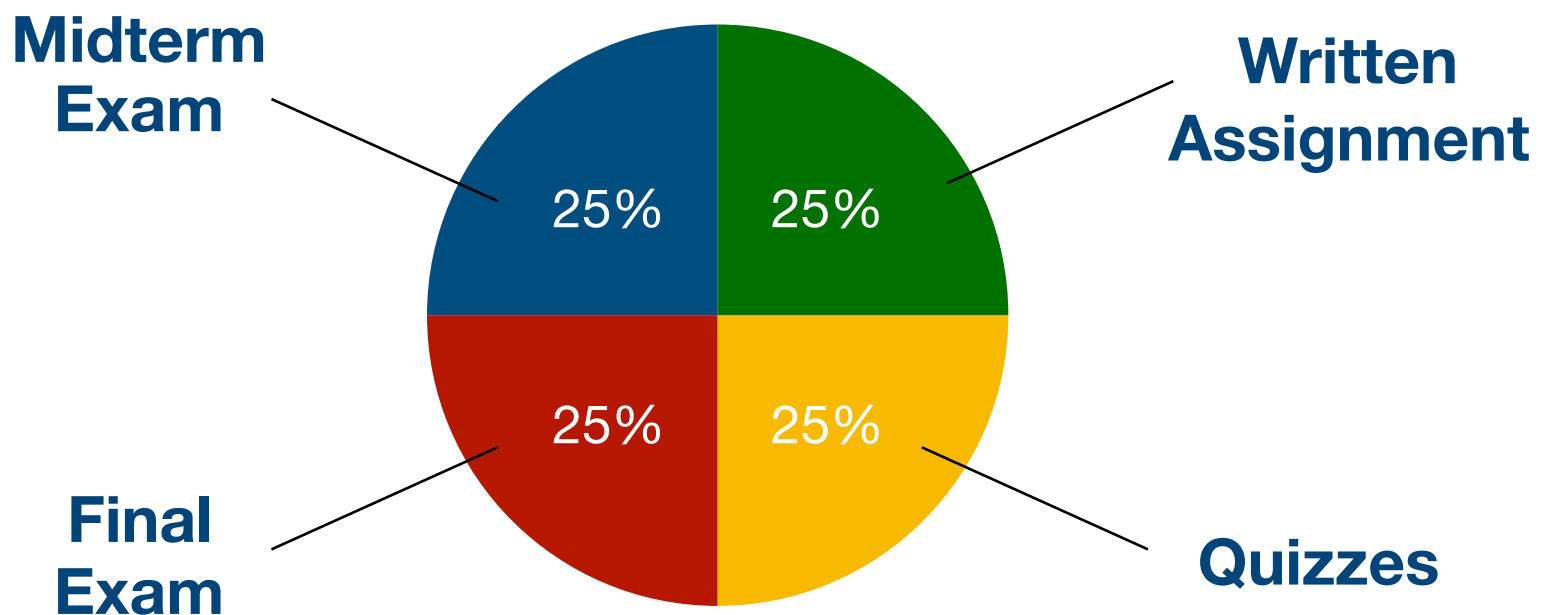
There will be 2 major exams in this class - the midterm and the final. Exams are timed and you may not use any resources during the exam. Exams may consist of *multiple choice*, *short answer* (one-word answers), and/or *essay questions* over material assigned in lectures, assigned readings, research articles, and discussions. Although the exams mostly focus on the content covered up to that time, they are cumulative in the sense that understanding of content presented earlier in the semester is necessary for comprehending content later in the semester. Exams will be delivered via Canvas using **ProctorU**. Instructions on setting up ProctorU will be provided in our Canvas course page.

► Quizzes

Most modules contain a quiz. These are not proctored and you have 3 attempts on these quizzes, with only your highest score counting. You may use your notes to complete these.

► Written Assignment

You will be required to complete a written assignment, demonstrating your understanding of cardiorespiratory exercise physiology and your ability to communicate that understanding. Details of this assignment will be provided in Canvas.



Modified 10-point Grading Scale

A	B	C	D	F
100 - 89.5 (Excellent)	89.49 - 79.5 (Above average)	79.49 - 69.5 (Average)	69.49 - 59.5 (Below average)	Below 59.5 (Well below avg)

Course Schedule

Note: The following schedule is tentative. It may be adjusted, as needed, during the semester to better serve the educational needs of those enrolled in the class.

Module	Begin Date	Topic(s)
1	8/23	Introduction to Cardiovascular System
2	8/30	The Heart
3	9/6	Hemodynamics
4	9/13	Cardiovascular Adjustments to Orthostasis
5	9/20	Central Cardiovascular Adjustments to Exercise
6	9/27	Control of Regional Blood Flow
7	10/4	Control of Blood Flow to Dynamically Active Muscle
	10/11	Midterm Exam
8	10/18	Respiratory Structure & Function
9	10/25	Respiratory Response to Exercise
10	11/1	Cardiorespiratory Adaptations to Training
11	11/8	Cardiovascular Adaptations to Aging
12	11/15	Cardiovascular Adaptations to Spaceflight
	11/22	THANKSGIVING BREAK
	11/29	Bonus Module / Assignment
	12/7	Final Exam

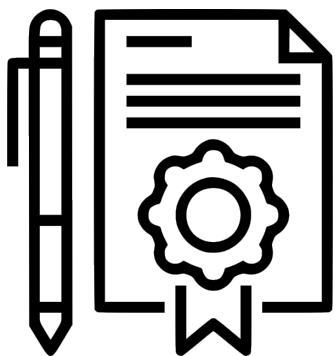
Reading assignments, SLOs, and other resources for each module will be provided in Canvas.

Course Policies



Professionalism

Students are expected to display a professional attitude in all aspects of the course, including online discussions, communication with the instructor and classmates, email correspondence, being attentive during lectures, and being respectful to the instructor and classmates. Please do not participate in any activity in the classroom that may be a distraction to others, including talking, eating, texting, or using your phone or devices for non-class purposes.



Quality of Work

All assignments, including exams, presentations, participation, and projects, will be graded with rigor appropriate for graduate course work. All written assignments should incorporate correct grammar, spelling, and a logical flow of ideas. I have little tolerance for bad grammar and spelling mistakes. I have even less tolerance for not using punctuation. Please use the Spelling and Grammar tool in your word processing software.



Late Work

Assignment instructions and due dates will be clearly posted and you will be given adequate time to complete your work. No assignments or discussion posts will be accepted past their deadlines, unless a valid University-approved excuse is provided.



Makeup Policy

Make-up exams and assignments will be given only for University-approved absences (See the UT Tyler Undergraduate Academic Policies in the catalog for details on excused absences). Make-up exams must be scheduled by pre-arrangement with the instructor *before* the date of the exam. If any exam is missed due to documented illness, injury, or family emergency, the instructor should be notified prior to or within 24 hours of the missed exam.



Feedback on Assignments

I will strive to give timely feedback on all assignments. Although most assignments will provide instant feedback, there are some (e.g., exams, written assignments) that will require grading outside of class. Due to the number of students in this class and the nature of the assignments, please allow approximately 3-4 days for evaluation and feedback on all exams and assignments. (I will notify you if I expect feedback to take a little longer for a particular assessment).

General Rules for Assignments

Study Guides

- ▶ Any study guides provided are intended only as a guide to help you study and are not to be viewed as the only source of questions that will be asked on the exam

Online Exams *(for classes with online exams)*

- ▶ Follow the provided instructions carefully to set up **ProctorU**
- ▶ Find a quiet place with a good high-speed internet connection
- ▶ Do not open the exam until you are ready to begin
- ▶ Once you begin the exam, you must finish it
- ▶ Cheating will not be tolerated. Any incidents reported by ProctorU during your exam will be reviewed and appropriate action will be taken, if necessary.

In Class Exams *(for classes with F2F component)*

- ▶ Arrive to class early. If you arrive after the exam has started, take your seat quietly. If you arrive after the first exam has been completed and turned in, you will not be allowed to take the exam.
- ▶ Bring pencils and erasers. All other personal items, including books, notes, laptops, cell phones, hats, earphones, Apple watches, etc. should either not be brought to class or left at the front of the room.
- ▶ No drinks or food are allowed during the exam
- ▶ Once the exam has been handed out, you may not leave the room until you turn in the exam. If you leave the classroom during the exam for anything other than an emergency, your exam will be collected and graded as is.
- ▶ Cheating will not be tolerated. Talking to anyone other than the instructor or proctor, using a cell phone (or similar), or having any course-related material out during the exam will be considered cheating and appropriate action will be taken.

Written Assignments

- ▶ Follow the instructions carefully for written assignments
- ▶ All work handed in is to be your own original work; cheating and plagiarism will not be tolerated.
- ▶ All assignments must be submitted by the stated due dates
- ▶ All assignments must be submitted via Canvas and will be checked for plagiarism

Policy on Academic Dishonesty

At The University of Texas at Tyler, students and faculty are responsible for maintaining an environment that encourages academic integrity. Students and faculty members are required to report an observed or suspected case of academic dishonesty immediately to the faculty member in charge of an examination, classroom, or laboratory research project, or other academic exercise.

Since the value of an academic degree depends on the absolute integrity of the work done by the student for the degree, it is imperative that students maintain a high standard of individual honor in scholastic work. Scholastic dishonesty includes but is not limited to cheating, plagiarism, and collusion.

This class will be conducted in full compliance with the UT Tyler "no tolerance" policies concerning documented cases of plagiarism and/or academic dishonesty. Any act of **cheating** or **plagiarized work** submitted will result in a grade of zero for that assignment and further disciplinary action may be taken. Extreme cases or repeated violations may result in an F in the course and/or expulsion from the university. Please make use of the UT Tyler Writing Center if you have concerns about plagiarism.

Tips for Success

☑ Prepare

Read the material and learn the vocabulary (Read, reread, then read it again). Use lecture time to understand complex processes rather than as your first look at the basic facts.

☑ Ask questions

Right down questions about difficult or unclear concepts during your readings and lecture viewings. Ask those questions. You are *normal* if you have some difficulty and chances are others have the very same questions. Be comfortable asking for help.

☑ Review and practice

Review material daily. Make pictures, lists, flow charts, concept (mind) maps...whatever works! As a general estimate, you should spend approximately 15 hours per week per week on this course. This will, of course, vary by individual. Use the study guides provided.

☑ Think about concepts

Ask yourself the global question of “How does this work?” Think about concepts, relationships, and integration of physiological systems. This makes learning much easier than rote memorization.

☑ Try explaining it to someone else

How do you know if you understand the material well? Try explaining it to someone.

“If you cannot explain something in simple terms, you don't understand it. The best way to learn is to teach.” - Richard Feynman

☑ Take responsibility for your learning

As you read and study, more questions may arise. Learn to do literature searches for the answers.

☑ Be thorough in your responses

On written assignments and essay questions on exams, err on the side of explaining your answer in *too much* detail, rather than in *not enough* detail.

☑ Use the Writing Center & Tutoring Center at UT Tyler

For help with writing assignments, please contact the Writing Center on campus at 903-565-5995. They have tutors and other resources available to assist you with your assignments.

☑ Get help

If you find yourself struggling in the class (especially if you fail an exam), you should meet with me as soon as possible so that we can determine what steps you need to take to succeed in the class. I'm available during my office hours or by appointment. I also have an open door policy.

University Policies

(From the *Handbook of Operating Procedures* and the UT Tyler Website)

STUDENT RIGHTS AND RESPONSIBILITIES

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

GRADE REPLACEMENT/FORGIVENESS

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

STATE-MANDATED COURSE DROP POLICY

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

DISABILITY SERVICES

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the **New Student** application. The **Student Accessibility and Resources (SAR)** office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

STUDENT ABSENCE DUE TO RELIGIOUS OBSERVANCE

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

STUDENT ABSENCE FOR UNIVERSITY-SPONSORED EVENTS AND ACTIVITIES

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

SOCIAL SECURITY AND FERPA STATEMENT

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

EMERGENCY EXITS AND EVACUATION

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

UT TYLER HONOR CODE

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

CAMPUS CARRY

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

UT TYLER A TOBACCO-FREE UNIVERSITY

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

UT TYLER RESOURCES FOR STUDENTS

- [UT Tyler Writing Center](http://www.uttyler.edu/writingcenter) (903.565.5995), writingcenter@uttyler.edu
- [UT Tyler Tutoring Center](http://www.uttyler.edu/tutoring) (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- [UT Tyler Counseling Center](http://www.uttyler.edu/counseling) (903.566.7254)

University Policies

(From the *Handbook of Operating Procedures* and the UT Tyler Website)

STUDENT STANDARDS OF ACADEMIC CONDUCT

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

- i. "Cheating" includes, but is not limited to:
 - copying from another student's test paper;
 - using, during a test, materials not authorized by the person administering the test;
 - failure to comply with instructions given by the person administering the test;
 - possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
 - using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program
 - collaborating with or seeking aid from another student during a test or other assignment without authority;
 - discussing the contents of an examination with another student who will take the examination;
 - divulging the contents of an examination, for the purpose of presenting questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
 - substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
 - paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, homework solution, or computer program;
 - falsifying research data, laboratory reports, and/or other academic work offered for credit;
 - taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonable should know that an unfair academic advantage would be gained by such conduct;
 - misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- II. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.
- III. "Collusion" includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
- IV. All written work that is submitted will be subject to review by plagiarism software.