

University of Louisiana at Lafayette
Department of Kinesiology
Bioenergetics

Course: Kinesiology 507

Semester: Fall 2020

Instructor: Otas, Ph.D., ATC

Office: 129-B

Office Hours: Thr: 1-5 or by appointment

Email address: xxxxxxxx@louisiana.edu

Zoom: <https://ullafayette.zoom.us/j/xxxxxxxx> (Zoom ID:xxx xxx xxxx)

Course Description

This course will introduce you to the energetics involved in biochemical pathways that are involved in the study of exercise science.

Text (not required)

Nelson, D.L., Cox, M.M. Lehninger, Principles of Biochemistry 5th or 6th edition

Supplemental Text (not required)

Soderberg, T. Organic Chemistry with a Biological Emphasis, University of Minnesota Morris Digital Well

Conceptual Framework: The Responsive Professional

The conceptual framework of the UL Lafayette College of Education is designed to expand upon the institution's commitment to be a responsive university. Candidates are expected to demonstrate knowledge, skills, and dispositions associated with the four elements of a Responsive Professional. Responsive Professionals demonstrate expertise in knowledge and practice. They are reflective practitioners who respect diversity and demonstrate a commitment to professionalism.

Course Objective

1. To understand physiological responses to exercise.
2. To be familiar with molecular-based fundamentals in metabolism.
3. To be able to appreciate scientific manuscript and apply the evidence to the practice.

Course Content

- 1) Understanding the basic energy transfer in metabolism
- 2) Aerobic and anaerobic pathway energetics
- 3) Protein synthesis
- 4) Further topics related to your thesis/project

Technology Integration

For this course, a computer/tablet with the following peripherals are needed:

- Speakers
- A webcam to take exams with a proctoring system

Contact information for IT Service desk: (<https://helpdesk.louisiana.edu/get-help/students>)

Off-campus 337-482- HELP (4357)
 On-campus 2-HELP (4357)
 Email: ithelp@louisiana.edu

Basic Computer Skills:

- Proficiency in the UL Lafayette Moodle system
- Using email
- Downloading and installing software/app

Moodle usage is mandatory and additional internet and/or library resources should be used as needed. All lecture notes will be posted on Moodle. The most up to date course grade will be posted on Moodle and the Instructor will not respond to queries regarding the current standing of a student if the student has not checked Moodle first. Also, the use of word processor (e.g. Word), presentation software (e.g. Powerpoint), and citation manager (e.g. Mendeley) is required as well.

Course Evaluation

Grading Scale:

A = 90-100%
B = 80-89.9%
C = 70-79.9%
D = 64-69.9%
F = 0-63.9%

Evaluations: Each of the criterion measures is listed as a weighted percentage of 100% of the final grade. NOTE FINAL TEST WILL BE CUMULATIVE FOR THE SEMESTER!

1. Exams (2 x 40 pts)	[80 pts]
2. 3 article presentations (3 X 20 pts)	[60 pts]
3. Class participation (3 pts x 6+α)	[18 pts]
4. Hot topics (4 x 5 pts)	[20 pts]
TOTAL	[178 pts] 100%

Format for Examinations:

Exams will be administered at Mid-Term and during Finals week. The format for the exam will be multiple choice questions and short answer questions for the mid-term (@on-site) and open-book, open-ended questions for the final exam (take home). Students will be responsible for all materials in the course (article presentations in addition to instructor lectures). Exams will take place during the normal course meeting time.

Article Presentations (30 minutes -- approx 20 slides)

Student will completely review the assigned article from a recognized peer-reviewed national or international publication. Students will be responsible for emailing the presentation file to the instructor at least 2 hours prior to your presentation.

Title Slide (APA citation for article - student name/date)

- Introduction/Purpose/Hypothesis (5~7 slides - cover the background of author, the variables they examined, and information/previous studies that lead the author to the purpose and research questions for the experiment)
- Methodology (3-5 slides - cover who the participants were, the testing conducted, instrumentation and statistical procedures. If you see a new experimental method, **explain** it)
- Results (3-5 slides - cover all results of the research, figure and table can be copied and pasted.)
- Discussion (1-2 slides - review the data and author' conclusion from the results **based on what you can believe and can't believe.**)
- Conclusion (1 slide – show take-home message(s))

The slides should be in **bullet point format** with appropriate titles and headings. PROOFREAD your work and PRACTICE your presentation before they are delivered. Grading of the presentation will involve your mastery of the information, your delivery and contact with the audience, and ability to clearly and intelligently articulate the information in the article. Using flash cards when providing your presentation is not recommended as it will prevent you from sending eye contacts to the audience.

Grading:

Coverage of Introduction (4 pts)

Coverage of Methodology/Results (8 pts)

Coverage of Discussion (4 pts)

Presentation of Information (4 pts)

Class participation

Also, participation is required in the discussion. Even if you are not assigned to present the article, you are required to read the paper. Write down **at least 3 questions**, type and print out them, and turn it in prior to the class.

Grading:

Writing 3 questions: (3 pts) x 6 opportunities. When you present an article, you don't have to turn in the questions. If you ask a stellar question, you might get extra points.

Hot topic assignments (4)

Abstracts will be given by instructor and you choose 4 of them for this assignment. Write a separate summary for each of the 4 chosen abstracts and upload them on Moodle or email to the instructor. Each summary shall be less than 300 words in length. Any assignment that is not turned in on time **WILL NOT** be graded. Only a personal emergency will excuse you from presenting at your scheduled time Please see further instruction as given in another document.

Grading:

All assignments will be graded on a 5-point scale (i.e., 5-excellent, 4-good, 3-average/ok, 2-needs work, 1-try again). If a student receives a grade less than a "4" on any assignment – you

will be allowed to repeat that assignment to obtain in a higher point value with the maximum possible point value attainable being “4”.

Resources

Information from the recommended texts, professional association websites in the form of recommendations/guideline/position statements, peer-reviewed scholarly journals, and related online materials/resources will be used as resources for course content.

Course Policies and Procedures

1. Since you are paying for the class - attendance is not mandatory; however, promptness is expected!! While it is recognized that certain unforeseen events may prevent you from attending a certain class, due to the lecture nature of this class it is vital that you attend and participate.
2. The large volume of material presented in this class will necessitate frequent and consistent study. Exams will be demanding and difficult; you must be thoroughly familiar with the information to the point of being able to interpret and apply it. This is a **graduate level class in exercise science** and I fully expect each of you to think about the basic information you already know, interpret it and apply it to various situations.
3. Please be respectful of me and your classmate by turning your cell phones on silent prior to the beginning of class and refraining from using your cell phone during class.
4. A missed exam will receive a grade of "0". If an absence is known in advance the exam can be taken early, otherwise all make-up exams will be essay format and given only at the instructor's discretion.
5. All students must have e-mail access and Moodle access for this course. Course information, readings and assignments will all be handled through Moodle.

Academic Honesty

The College of Education adheres to the policy on academic honesty as outlined in the Undergraduate and Graduate Catalog (<http://catalog.louisiana.edu/content.php?catoid=5&navoid=1031>). In particular, plagiarism, “Representing others work as your one's own without acknowledging the source,” whether intentional or unintentional, will not be tolerated. Plagiarism is serious offense. The minimum penalty for a student guilty of either dishonest act is a grade of "zero" for the assignment in question. The maximum penalty is dismissal from the University. **The 1, 2, or 10 points you cheat for are not worth risking your ENTIRE academic career. DO NOT put me in a situation where I have to act accordingly.**

Students Requiring Special Accommodations

Students requiring special accommodations must register with the Office of Services for Students with Disabilities and provide official documentation to the instructor in a timely manner.

UL Lafayette COVID-19 Syllabus Policies and Guidelines

Student Code of Conduct: COVID-19: The University aims to fulfill its mission while protecting the health and safety of our students and campus community at large. This includes taking steps to minimize the potential spread of COVID-19. The University will adhere to the orders, proclamations, and regulations of the Governor of Louisiana and the Mayor-President of Lafayette, Louisiana, as well as guidelines from the Centers for Disease Control and Prevention (“CDC”) and the Louisiana Department of Health (“LDH”) regarding COVID-19. This impacts the expectations of all students as the University continues to make public health informed decisions to protect health and safety on campus. Students should read and understand the addendum to the Code of Student Conduct regarding COVID-19 and Public Health-Informed Policies, and any updates thereto.

COVID-19 Mask Policy for Academic Areas: To assist in decreasing the spread of the COVID-19 virus, it is the University's policy that all students, faculty, and staff are required to wear masks or face coverings which completely cover the nose and mouth areas while inside any academic building including classrooms, labs, studios, offices, hallways, and stairways. A face shield is not an acceptable substitute of a face mask. Failure to wear a mask is a violation of the Student Code of Conduct and such violation will be forwarded to the Dean of Students for action.

Students who have concerns about wearing masks due to a disability or medical condition may discuss a modification to the University's mask policy with the Office of Disability Services. In order to discuss a modification for the Fall 2020 semester, students must first register with Disability Services. All registrants will be contacted to arrange a virtual meeting for further discussion. Learn more about Disability Services and accommodations on the Student COVID-19 Response page. Email questions to ods@louisiana.edu.

COVID-19 Attendance: If you are experiencing any signs or symptoms associated with COVID-19 (refer to the most recent Centers for Disease Control [CDC] guidance on possible symptoms), do not come to class or to campus. First, contact Student Health Services (337-482-1293) or your medical provider, then contact your instructors to inform them of your situation and discuss possible arrangements and ways to keep up with the courses. If you do not feel well for any reason and are staying home, including for symptoms of COVID-19, fill out the Anticipated or Unplanned Absence Form.

If you are required to self-isolate or self-quarantine because of COVID-19, do not come to class or to campus. All students who are required to self-isolate or self-quarantine because of COVID-19 must complete the Student COVID-19 Quarantine and Isolation Form (they do not need to complete the Anticipated or Unplanned Absence form) and email their instructors for support and resources.

Do not wait until you are behind to reach out to your instructors. Options will vary depending on when during the term you are unable to participate, how much class time and coursework is missed, and the nature of the course. Options may include, but not be limited to, transitioning to learning and testing remotely during your absence; in extreme cases, withdrawing from the course, or receiving a grade of incomplete. Contact your instructor and academic advisor with any questions.

For requests to move from on-campus to remote learning for reasons related to COVID-19, a student initiates a written request to the faculty member. The faculty member considers the student's request, learning objectives of the course, and educational technology available to determine if an arrangement for remote instruction is feasible. If a resolution within the course is not possible, the student may contact the department head over the course, and then the academic Dean, to see what other resolutions may be available.

Learn more on the Student COVID-19 Response page on the University's website. If you have any questions or concerns, email deanofstudents@louisiana.edu.

Faculty Guidelines: Academic departments will procure a supply of masks through Facilities Management to make available to faculty for students who do not have a mask. If a student is required to wear a mask but is not wearing one as required in academic areas, faculty will provide a mask to the student and inform the student that it is a violation of the Code of Student Conduct not to wear a mask. If the student does not use the mask, the student will be required to leave the classroom and the faculty will advise them that they will report it as a violation of the Code of Student Conduct. The faculty will complete the Community Reporting Form found on the Office of Student Rights and Responsibilities website. Any class missed due to a student's failure to adhere to the requirement of wearing a mask will be recorded as an unexcused absence.

The student will not be allowed into the academic setting until clearance has been provided from the Office of Student Rights and Responsibilities. Students should stay in contact via e-mail with their instructors/professors pending clearance.

Health or Safety Risk: The University may request or require a student to leave campus when that student's continued presence on campus poses a health or safety risk for community members.

Tentative course schedule:

Date	Topic	Article Presentation	Due 1	Due 2
20-Aug	Syllabus and introduction	-	-	-
27-Aug	Basics of biochemistry	-	-	-
3-Sep	Basics of bioenergetics	Instructor	3 questions (Extra pts)	-
10-Sep	Anaerobic glycolysis	student	3 questions	Hot topic 1
17-Sep	Gluconeogenesis	student	3 questions	-
24-Sep	Metabolic regulation: glucose and glycogen	student	3 questions	Hot topic 2
1-Oct	Metabolic regulation: glucose and gluconeogenesis	student	3 questions	-
8-Oct	Citric acid cycle (Krebs cycle)	student	3 questions	-
15-Oct	Mid Term	-	-	-
22-Oct	Oxidative phosphorylation	student	3 questions	-
29-Oct	Fatty acid catabolism	student	3 questions	Hot topic 3
5-Nov	Ketone bodies	student	3 questions	-
12-Nov	Mitochondria uncoupling/Pentose phosphate pathway	student	3 questions	Hot topic 4
19-Nov	Final Exam – Due Nov. 25	-	-	-