



School of Health Studies

NUTR 3002 – 001 – Adv Human Metabolism I

TR 2:40 pm - 4:05 pm

Room: 302 Elma Roane Fieldhouse

Instructor: Dr. Yufeng Zhang

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Office hours: By appointment

Course description:

In depth study of carbohydrates, lipids & proteins and their biochemical functions in human metabolism.

Prerequisite:

BIOL 2010/2011, 2020/2021

Textbook:

Advanced Nutrition and Human Metabolism | 7th Edition. Sareen S. Gropper/Jack L. Smith/Timothy P. Carr. ISBN: 9781305627857

Course objective:

1. Provide a comprehensive understanding of the cellular and sub-cellular metabolism of macronutrients.
2. Develop critical thinking skills through interpretation, evaluation and reporting of research data related to specific nutrient function and apply to nutrition issues.
3. Review and assess current publications.

Assignments, Exams and Grading criteria:

Exams: 2 @ 100 points each = 200 points

Mini Review = 100 points

Presentation = 100 points

The total = 400 points

Grading scale: >90% A, 80 – 89% B, 70 -79% C, 60 – 69% D, < 59% F

Attendance: Attendance is required at all class meetings, attendance will be taken. Students who are absent are responsible for obtaining class notes from fellow students. Please be on time for class.

Make up exams: No make-up exams given except under extreme circumstances and must be approved prior to exam day.

Awarding an incomplete grade: A grade of "I" (Incomplete) may be assigned by the instructor if the student is unable to complete the work due to extraordinary events beyond the individual's control. The "I" may **not** be used to extend the term for students who complete the course with an unsatisfactory grade. Unless the student completes the requirements for removal of the "I" within 45 days (for undergraduate courses, or 90 days for graduate courses) from the end of the semester or Summer term in which it was received, the "I" will be changed to an "F,"

Special Needs: Any student who anticipates physical or academic barriers based on the impact of a disability is encouraged to speak with Dr van der Merwe privately during the first week of class. Students with disabilities should also contact Disability Resources for Students (DRS) at 110 Wilder Tower, 901-678-2880. DRS can coordinate access and accommodations for students with disabilities.

Americans with Disabilities Act: The University of Memphis does not discriminate on the basis of disability in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of any of its programs and activities, as specified by federal laws and regulations. *The student has the responsibility of informing the course instructor (at the beginning of the course) of any disabling condition, which will require modification to avoid discrimination.* Faculty are required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.

Learning Environment: The School of Health Studies recognizes its responsibility to promote a safe and diversity-sensitive learning environment that respects the rights, dignity, and well-being of students, faculty, and staff. Diversity means the fair representation of all groups of individuals, the inclusion of contrasting perspectives and voices, together with the appreciation and valuing of different cultural and socioeconomic group practices. Moreover, the school aspires to foster a climate of mutual respect and empathy, among and between students, faculty, and staff, by nurturing an atmosphere that is free from discrimination, harassment, exploitation, or intimidation. Courses will strive to provide an opportunity for all students to openly discuss issues of diversity including, but not limited to, age, disability, ethnicity, gender, race, religious beliefs, and sexual orientation.

Academic integrity: Failure to abide by the University Honor Code will result in automatic failure of this course. All written work submitted must be the student's original work. This means that any substantive ideas, phrases, sentences, and/or any published ideas must be properly referenced to avoid even the appearance of plagiarism. **Plagiarism** includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full or clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency in the selling of term papers or other academic materials. It is the student's responsibility to know all relevant university policies concerning plagiarism. Any documented cases of plagiarism can and will result in dismissal from the course with a failing grade, and may result in other more serious sanctions by the College of Education.

Harassment: The School of Health Studies believes it is important to respond to insensitive and inappropriate behavior in a spirit of collegiality, mutual respect, and professionalism. If you believe that you have been the target of discrimination by another student, a faculty member, or staff member, due to age, disability, ethnicity, gender, race, religious beliefs, sexual orientation, or cultural group membership, you can choose to pursue one or more of the following avenues:

The most direct approach, if you feel comfortable doing so, is to speak directly to the person whose behavior you consider to be inappropriate. You may speak to the instructor (Dr. van der Merwe), another faculty member, the Department Chair (678-4165), or the University's Affirmative Action Officer (678-2713). You may contact the Assistant Dean of Students (678-2298) in the Office of Student Judicial Affairs

Inclement weather: In the event that inclement weather requires the cancellation of classes at The University of Memphis, local radio and television media will be immediately notified. Additionally, The University of Memphis has established an inclement Weather Hotline at 678-0888. 4

Crisis management: To learn more about the Office of Crisis Management and what they are doing to keep our campus safe, please visit <http://www.memphis.edu/crisis/>

NUTR 3002 – 001 Tentative Course Schedule

DATE	TOPIC
Jan. 15	Introduction to Class/ Syllabus
Jan. 17, 22	Bioenergetics and mitochondria
Jan. 24	Reactive Oxygen Species and oxidative stress
Jan. 29, 31	Structure and properties
Feb. 5	Structure and properties
Feb. 7, 12	Carbohydrate digestion, absorption, and transport
Feb. 14, 19	Carbohydrate metabolism
Feb. 21, 26	Carbohydrate metabolism
Feb. 28	<u>Exam 1</u>
<i>Mar. 5, 7</i>	<i>Spring Break</i>
Mar. 12, 14	Lipid digestion, absorption, and transport
Mar. 19, 21	Lipid metabolism
Mar. 26, 28	Lipid metabolism
Apr. 2, 4	Protein digestion, absorption, and transport (Mini Review due)
Apr. 9, 11	Protein metabolism
Apr. 16, 18	Protein metabolism
Apr. 23	Conclusion
Final week	<u>Exam 2</u>

* Find 2 studies published in peer reviewed journals on a specific issue regarding substrates metabolism and write YOUR review and conclusion about these studies. Mini Review should be divided into the following sections, in this order:

1. Title page
2. Abstract (max. 150 words)
3. Review body (2-3 pages, double space)
4. Acknowledgements
5. References
6. Figures and figure legends
7. Tables

****Presentation:** 10-15 min presentation on an original peer reviewed scientific journal article on specific substrates metabolism.

- Provide brief background information, justification for the experiment, explain what the results means and give a conclusion.