NTR 390.1
Advances in Nutritional Sciences
Fall 2018

Office Hours: M, W 5 pm or by appointment

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COURSE OBJECTIVES:
A. Develop an appreciation for the importance of cell biology, biochemistry and molecular biology in nutrient uptake and metabolism.
B. Understand the basic concepts and importance of metabolic regulation at the whole body, organ and cellular level.
C. Gain an understanding of how multiple nutrients work together to regulate physiological function.
D. Understand the role of bioactive food components

1. Required Text: None

2. Grade Determination
   5% Participation (Attendance and Involvement)
   10% Journal Club Homework Assignments
   45% Exams (3; 15% each)
   20% Paper
   20% Oral Presentation

Grades will be reported as:
90 - 100 A 72 - 74 C
87 - 89 A- 69 - 71 C-
84 - 86 B+ 66 - 68 D+
81 - 83 B 63 - 65 D
78 - 80 B- 60 - 62 D-
75 - 77 C+ < 60 F

Final grades will be rounded to the nearest integer. Regular grades will have only one digit after the decimal. Please note that there are no opportunities to earn extra credit in this course.

Journal Club Homework Assignments: 5 minutes oral discussion of an article published in 2015 or later and related to the lecture topic presented by the instructor during the previous week
Paper: one 5 page double-spaced typed paper (exclusive of reference, tables and figures)
Oral Presentation: each student will be scheduled to give a 20-minute oral presentation on the topic of the paper
## Tentative Course Schedule: NTR 390.1, Fall 2018

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Lecture</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-Aug</td>
<td>W</td>
<td>1</td>
<td>Syllabus / Intro.</td>
<td>Course overview</td>
</tr>
<tr>
<td>3-Sept</td>
<td>W</td>
<td>-</td>
<td>NO CLASS</td>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td>5-Sept</td>
<td>W</td>
<td>2</td>
<td>Tutorials</td>
<td>PubMed, Medline and EndNote</td>
</tr>
<tr>
<td>10-Sept</td>
<td>M</td>
<td>3</td>
<td>Metabolism</td>
<td>Nutrition and metabolism (JC*)</td>
</tr>
<tr>
<td>12-Sept</td>
<td>W</td>
<td>4</td>
<td>Human physiology</td>
<td>Digestion anatomy</td>
</tr>
<tr>
<td>17-Sept</td>
<td>M</td>
<td>5</td>
<td>Cell structure</td>
<td>The cell plasma membrane (JC)</td>
</tr>
<tr>
<td>19-Sep</td>
<td>W</td>
<td>6</td>
<td>Cell structure</td>
<td>Organelles</td>
</tr>
<tr>
<td>24-Sept</td>
<td>M</td>
<td>7</td>
<td>Cell transport</td>
<td>Transport into/through cells &amp; enzyme activity (JC)</td>
</tr>
<tr>
<td>26-Sept</td>
<td>W</td>
<td>8</td>
<td><strong>Exam I</strong></td>
<td></td>
</tr>
<tr>
<td>1-Oct</td>
<td>M</td>
<td>9</td>
<td>Carbohydrates</td>
<td>Glycomics: Simple &amp; Complex sugars</td>
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<tr>
<td>3-Oct</td>
<td>W</td>
<td>10</td>
<td>Carbohydrates</td>
<td>Digestion/absorption</td>
</tr>
<tr>
<td>8-Oct</td>
<td>M</td>
<td>11</td>
<td>Carbohydrates</td>
<td>Glycogen metabolism (JC)</td>
</tr>
<tr>
<td>10-Oct</td>
<td>W</td>
<td>12</td>
<td>Carbohydrates</td>
<td>Glycolysis and Gluconeogenesis</td>
</tr>
<tr>
<td>15-Oct</td>
<td>M</td>
<td>13</td>
<td>Proteins</td>
<td>Amino acids and proteomics (JC)</td>
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<tr>
<td>17-Oct</td>
<td>W</td>
<td>14</td>
<td>Proteins</td>
<td>Digestion/absorption</td>
</tr>
<tr>
<td>22-Oct</td>
<td>M</td>
<td>15</td>
<td>Proteins</td>
<td>Urea cycle and amino acid metabolism (JC)</td>
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<tr>
<td>24-Oct</td>
<td>W</td>
<td>16</td>
<td><strong>Exam II</strong></td>
<td></td>
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<tr>
<td>29-Oct</td>
<td>M</td>
<td>17</td>
<td>Lipids</td>
<td>Lipids and lipidomics</td>
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<tr>
<td>31-Oct</td>
<td>W</td>
<td>18</td>
<td>Lipids</td>
<td>Digestion/absorption</td>
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<tr>
<td>5-Nov</td>
<td>M</td>
<td>19</td>
<td>Lipids</td>
<td>Lipoproteins (JC)</td>
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<tr>
<td>7-Nov</td>
<td>W</td>
<td>20</td>
<td>Lipids</td>
<td>Adipocytes and lipid metabolism</td>
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<tr>
<td>12-Nov</td>
<td>M</td>
<td>21</td>
<td>Bioactive food components</td>
<td>Phytochemicals and Reactive oxygen species (JC)</td>
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<tr>
<td>14-Nov</td>
<td>W</td>
<td>22</td>
<td>Bioactive food components</td>
<td>Water Soluble Vitamins</td>
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<tr>
<td>19-Nov</td>
<td>M</td>
<td>23</td>
<td>Bioactive food components</td>
<td>Fat Soluble Vitamins and Carotenoids (JC)</td>
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<tr>
<td>21-Nov</td>
<td>W</td>
<td>-</td>
<td>NO CLASS</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>26-Nov</td>
<td>M</td>
<td>24</td>
<td>Bioactive food components</td>
<td>Cofactors in energy metabolism (JC)</td>
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<tr>
<td>28-Nov</td>
<td>W</td>
<td>25</td>
<td>Systems Biology</td>
<td>Metabolism and metabolomics</td>
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<tr>
<td>3-Dec</td>
<td>M</td>
<td>26</td>
<td><strong>Exam III</strong></td>
<td></td>
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<tr>
<td>5-Dec</td>
<td>W</td>
<td>27</td>
<td>Paper preparation</td>
<td>Library work on paper</td>
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<tr>
<td>10-Dec</td>
<td>M</td>
<td>28</td>
<td>Paper presentation</td>
<td>Paper presentation and research paper deadline</td>
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</table>

http://registrar.utexas.edu/calendars/18-19
JC*: Journal Club assignments
3. **Students with disabilities**
   - Please notify me of any modification/adaptation you may require to accommodate a disability-related need. You will be requested to provide documentation to the Dean of Students’ Office, in order that the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities. For more information, contact the Office of the Dean of Students at 471-6259 or 471-4641, [https://www.utexas.edu/diversity/ddce/ssd/](https://www.utexas.edu/diversity/ddce/ssd/). Five business days before an exam the student should remind the instructor of any testing accommodations that will be needed.

4. **Recording by students**
   - Consistent with our mission of training students who act with the highest standards of honesty, integrity and trustworthiness, and with respect for the legitimate interests of others, **audio or video recording (or any other form of recording) of classes is not permitted by any means without prior express authorization of the faculty member**. Students who request recording of classes under the Americans with Disabilities Act must contact UT Austin’s SSD Center.

5. **Exam Policy**
   - Student IDs will be checked at each exam. You must show your ID when handing in your exam.
   - While exams are in progress, all books, notebooks, papers, jackets, cell phones and personal effects must be placed underneath your desk.
   - During exams, baseball caps must be removed or turned around with the bill facing the back.
   - **LECTURE MATERIAL WILL SERVE AS EXAM QUESTIONS.** If figures/tables from other books are used, then only the information presented in class will be used for exams.
   - **THERE WILL BE NO MAKE-UP EXAMS.** No make-up exams will be given unless you have a valid and documented medical or family emergency. In the event that you miss an exam (without a valid excuse), you will be required to take the comprehensive final exam. If you miss more than 1 exam, you will receive zero points for the 2nd missed exam unless prior arrangements have been made with the instructor.
   - The material covered will be all the lecture material since the last exam.
   - Pay special attention to things that are highlighted or asterisked by me in lectures. These items are more likely to be test questions.
   - The format of the exams will consist of multiple choice and short/long answer essays.
   - **Exams will not be returned to you,** but will be available for review during the instructor’s office hours. To maintain security of exam content, students may not make any notes while reviewing their exam.
   - Questions regarding exam grading should be made, in writing, to the instructor (Dr. Tiziani). For exam re-evaluation this must occur by the second class day following the return of the exam.
   - **Regrade Policy:** for any re-grades other than arithmetic errors, the entire test will be regraded and you may lose points as well as gain them. If there is any indication that the student has altered the exam after getting it back, there will be no credit given for the answer. If you use a pencil or erasable ink to take your exam, we will not allow a regrade. You must use permanent ink (but not red ink) if you anticipate wanting a regrade.

6. **Academic and Professional Honesty**
   - Honesty must be practiced in all assignments and activities. Students are encouraged to become familiar with the University policy on academic honesty.
• Cheating in its various forms, such as copying or sharing information on individually assigned projects or examinations, and plagiarism or falsification of information or data, will not be tolerated and may be grounds for dismissal from the class. Suspected violations of the policy will be reported to the Dean of Students. Academic dishonesty may result in a failing grade in the course and further disciplinary action by the University.

7. Cell Phone and Computer Use
• As a courtesy to the instructor and other students, cell phones are to be silenced and put away during class. Do not text message or use your phone in any way during class.
• Computers: You may use a computer for taking notes. During class, students are expected to devote their full attention to the course material. Students are requested to refrain from using a computer for other purposes (e.g., viewing non-class related websites and materials such as Facebook, email, etc.) You may be asked to put away your computer at any time per the instructor or teaching assistant’s request.

8. Texts
• RECOMMENDED TEXT: none.
• The lecture material is derived from a mixture of cell biology, biochemistry and nutrition textbooks and peer-reviewed articles.

9. Lecture Materials
• All materials for this course can be accessed on the Canvas website (http://canvas.utexas.edu/). Handouts will be posted on Canvas.
• Syllabus, lecture slides (pdf. format), learning outcomes, chapter study guides, announcements, assignments, recordings, handouts, supplemental materials serve as an outline of the key content of the class.

10. Use of E-Mail for Official Correspondence with Students
• E-mail is recognized as an official mode of university correspondence. Therefore, you are responsible for reading your e-mail for university and course-related information and announcements. You are responsible to keep the University informed about changes to your e-mail address. You can find UT Austin’s policies and instructions for updating your e-mail address at: http://www.utexas.edu/its/help/email/1564 Students’ Responsibilities
• As a student in this course, you are responsible for learning all of the course material specified in the syllabus. You will be required to learn some of the course material independently through readings specified in the study guide and lecture recordings on Canvas.

11. Class Attendance Policy
• Class attendance is mandatory and will be a major factor in determining 5% of your grade.
• A clear pattern of absences or poor class performance will result in “Absence-Failing” notifications sent via email.

12. Accommodations for Religious Holidays
• University policy requires that you provide at least 14 days advanced notice of a planned absence for a religious holiday.
• If you miss a class, an examination, an assignment, or a project in order to observe a religious holiday, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

13. Communicating with the Instructor
• If you have a question about an exam or want advice with study preparation, the instructor will be happy to answer your questions during office hours, at a scheduled appointment, or immediately before and after class.
• The instructor will not answer questions concerning the content of an exam by e-mail.

14. Emergency Procedures
The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, http://www.utexas.edu/safety/
• Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
• Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
• Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
• In the event of an evacuation, follow the instruction of faculty or class instructors.
• Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
• Use the Behavior Concerns Advice Line (BCAL) hotline to report any behavior or incident that is suspicious or disturbing: 512-232-5050
• Link to information regarding emergency evacuation routes and emergency procedures can be found at: utexas.edu/emergency.

15. Student Resources
The following resources are available to all students on the UT-Austin campus:
• Campus Safety and Security: http://operations.utexas.edu/units/csas/
• Counseling and Mental Health Center: https://cmhc.utexas.edu/
• Forty Acres Pharmacy: http://www.fortyacrespharmacy.com/
• University Health Services: https://healthyhorns.utexas.edu/
• University of Texas Police Department: http://police.utexas.edu/
• UT Recreational Sports: https://www.utrecsports.org/

CLASSROOMS ARE PLACES OF LEARNING, AND WEAPONS OF ANY KIND ARE NOT APPROPRIATE IN ANY CLASSROOM.