Course Description
Examination of the etiology, prevention and treatments of metabolic disorders such as diabetes mellitus, insulin resistance, metabolic syndrome and obesity as major threats to public health. Prerequisite: BISC 220L (Duplicates credit in former EXSC 409).

Learning Objectives
• To develop a deeper comprehension of the central and cross-disciplinary concepts of human biology, which include, but are not limited to bioenergetics, physiological homeostasis, and metabolic dysfunction.

• To place biological, nutritional and physiopathological knowledge into an applicable and ethical context, especially how biology, physiology and nutrition can contribute to the resolution of sociocultural issues.

• To provide sufficient depth of knowledge for entry-level employment in a wide variety of fields or for graduate study in the health professions or other biology-related disciplines.

Required Readings:
All required readings are available for free on the University library website as follows:

   https://library.usc.edu/uhhtbin/cgiisirsi/x/0/0/5?searchdata1=4811982%7BCKEY%7D

   https://library.usc.edu/uhhtbin/cgiisirsi/x/0/0/5?searchdata1=3362933%7BCKEY%7D

Description and Assessment of Assignments
• Class material will be evaluated via quizzes, project and exams.

Additional Policies
• The grading scale is based on the traditional scale as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>(≥93%)</td>
</tr>
<tr>
<td>A-</td>
<td>(≥90%)</td>
</tr>
<tr>
<td>B+</td>
<td>(≥87%)</td>
</tr>
<tr>
<td>B</td>
<td>(≥83%)</td>
</tr>
<tr>
<td>B-</td>
<td>(≥80%)</td>
</tr>
<tr>
<td>C+</td>
<td>(≥77%)</td>
</tr>
<tr>
<td>C</td>
<td>(≥73%)</td>
</tr>
<tr>
<td>C-</td>
<td>(≥70%)</td>
</tr>
<tr>
<td>D+</td>
<td>(≥67%)</td>
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<tr>
<td>D</td>
<td>(≥63%)</td>
</tr>
<tr>
<td>D-</td>
<td>(≥60%)</td>
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<tr>
<td>F</td>
<td>(≤59.9%)</td>
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</tbody>
</table>

• Quizzes will be given during lectures and will be based on the material discussed.

• A midterm exam can be taken after the specified date **ONLY** if the student has a **documented**
  medical excuse.

• Exams will not be given a letter grade. Only the final grade will be given a letter grade.

• A request to take a make-up exam must be accompanied by evidence of necessity (ie: letter from
  a doctor) and must be made before the date of the scheduled exam. Make-up exams will be
  different from the scheduled exam and may be proctored by personnel who do not have
  extensive knowledge in the area being tested.

• Lecture slides will be posted on blackboard, however, please do not rely entirely on slides, these
  are meant as a starting point for note-taking.

• The project will focus on novel strategies to prevent/control obesity. It will be based on 4
  scientific articles and will entail the development of a novel strategy to combat obesity.

Grading Breakdown

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm 1</td>
<td>250</td>
<td>25</td>
</tr>
<tr>
<td>Midterm 2</td>
<td>250</td>
<td>25</td>
</tr>
<tr>
<td>Project</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Final Exam</td>
<td>250</td>
<td>25</td>
</tr>
<tr>
<td>Quizzes</td>
<td>50</td>
<td>5</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>1000</td>
<td>100</td>
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<tr>
<td>JEP (Extra Credit)</td>
<td>25</td>
<td>2.5</td>
</tr>
<tr>
<td>Date</td>
<td>Lecture Topic</td>
<td>Harrison’s</td>
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<tr>
<td>------------</td>
<td>--------------------------------------------</td>
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</tr>
<tr>
<td>Aug 23</td>
<td>Intro &amp; Epidemiology</td>
<td></td>
</tr>
<tr>
<td>Aug 25</td>
<td>Adipose Tissue</td>
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<tr>
<td>Aug 30</td>
<td>Adipokines</td>
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<tr>
<td>Sep 1</td>
<td>Obesity</td>
<td></td>
</tr>
<tr>
<td>Sep 6</td>
<td>Immune system and Inflammation</td>
<td>314</td>
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<tr>
<td>Sep 8</td>
<td>Inflammation and adipose dysfunction</td>
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<tr>
<td>Sep 13</td>
<td>Diabetes</td>
<td>344</td>
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<tr>
<td>Sep 15</td>
<td>Insulin Resistance</td>
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<tr>
<td>Sep 20</td>
<td>Complications of Diabetes</td>
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<tr>
<td>Sep 22</td>
<td>Revision</td>
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</tr>
<tr>
<td>Sep 27</td>
<td><strong>Midterm I</strong></td>
<td></td>
</tr>
<tr>
<td>Sep 29</td>
<td>Liver Disease I</td>
<td></td>
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<tr>
<td>Oct 4</td>
<td>Liver Disease II</td>
<td></td>
</tr>
<tr>
<td>Oct 6</td>
<td>Lipoproteins and dyslipidemia</td>
<td>356</td>
</tr>
<tr>
<td>Oct 11</td>
<td>Cardiovascular System</td>
<td>224</td>
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<tr>
<td>Oct 13</td>
<td>Atherosclerosis</td>
<td>241</td>
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<tr>
<td>Oct 18</td>
<td>Hypertension</td>
<td>298</td>
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<tr>
<td>Oct 20</td>
<td>Heart Disease</td>
<td>293</td>
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<tr>
<td>Oct 25</td>
<td>Revision</td>
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<tr>
<td>Oct 27</td>
<td><strong>Midterm II</strong></td>
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<tr>
<td>Nov 1</td>
<td>Project Check-in</td>
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<tr>
<td>Nov 3</td>
<td>Clinical Nutrition I</td>
<td>73-74</td>
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<tr>
<td>Nov 8</td>
<td>Clinical Nutrition II</td>
<td>73-74</td>
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<tr>
<td>Nov 10</td>
<td>Neural control of feeding</td>
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<tr>
<td>Nov 15</td>
<td>Circadian Rhythms and Metabolism</td>
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<td>Nov 17</td>
<td>Metabolic syndrome and CR Fitness</td>
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<td>Nov 22</td>
<td>Childhood Obesity</td>
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<tr>
<td>Nov 24</td>
<td><strong>Thanksgiving</strong></td>
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<td>Nov 29</td>
<td>Prevention Plans</td>
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<tr>
<td>Dec 1</td>
<td>Revision</td>
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<td>Dec 3-6</td>
<td><strong>Study Days</strong></td>
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<tr>
<td>TBD</td>
<td><strong>FINAL EXAM</strong></td>
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</table>
Statement on Academic Conduct and Support Systems

Academic Conduct
Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity http://equity.usc.edu/ or to the Department of Public Safety http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems
A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information http://emergency.usc.edu/ will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.