Course Objectives:
- To familiarize students with current and classical scientific literature in areas of:
  - Immunology
  - Brain and endocrine mechanisms of stress
  - Stress-Immune interactions and mechanisms
  - Application of mechanistic information in research models
- To give graduate students an opportunity to interact with graduate students at different universities with similar interests

Collaborating Institutions
Texas Tech University (John McGlone & Mhairi Sutherland)
University of Illinois (Janeen Salak-Johnson)
Iowa State University (Anna Butters-Johnson)

Course Format
* This course will meet on conference call, on line, and possibly by video conference. At the beginning of the semester, students will receive a required reading list. Reading assignments should be completed before class each week.
* Instructors will present information about the core topics in the early weeks of the class.
* Students will prepare written summaries of certain papers, and will be assigned parts of papers or whole papers to present to the group. Instructors will ask questions prior to each class period and the students must be prepared to answer each question. For each paper (or parts of papers, or set of papers, depending on the complexity of the papers), students will be assigned as either a primary or secondary reviewer. All students must read and be familiar with all papers, regardless of their role. Instructors will provide questions about the papers before class.

During the Student Paper weeks
For a given paper, the responsibilities of the student reviewers are:

**Primary reviewer.** This person provides a summary of the paper. The summary should include the major findings. The primary reviewer sends their review, largely in bullet point format, to the secondary reviewer and the instructors at least 1 day before class meeting time. The primary reviewer summarizes and supports the paper.

**Secondary reviewer.** This person identifies the weak points of the paper. This person sends their review to the primary and secondary reviewer and the instructors at least 1 day before class meeting time.

*For a given topic (paper, part or a paper or collection of papers), the assigned students take a total of 5 minutes to summarize the paper as described above. Then the 2 assigned students will answer the instructor’s questions for 5 minutes. Instructors will clarify and add to the discussion. Then, for the next 5 minutes, the entire class can comment on what has been said and on the instructor questions. It is important that primary and secondary reviewers prepare information prior to class.*

* One instructor will lead the discussion, and another will be the time keeper.

Grading
Students will be graded in participation, abstracts, and 2 exams. Grades will be based on the following
points:
5 abstracts @ 25 points each         125
2 exams @ 100 points each            200
Participation                                      125
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Total                                          450

90 % = A
80 % = B
70 % = C
60 % = D
< 60 % = F

Class Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Topic</th>
<th>Papers</th>
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</thead>
<tbody>
<tr>
<td>Wed</td>
<td>6-Sep</td>
<td>Introduction; overview of Stress &amp; Immunity</td>
<td>S. Levine, 2005, Stress: An historical perspective</td>
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<tr>
<td>Mon</td>
<td>11-Sep</td>
<td>Immunology review</td>
<td>Immunology lecture on line; P Kidd, 2003 Th1/Th2 Balance</td>
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<tr>
<td>Mon</td>
<td>18-Sep</td>
<td>Immunology review</td>
<td>IJ Elenkov, Glucocorticoids and the Th1/Th2 balance</td>
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<td>Wiegers et al., 2005. Glucocorticoids &amp; immunity</td>
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<tr>
<td>Wed</td>
<td>27-Sep</td>
<td>Brain-Endocrine-Stress review</td>
<td>AJ Fulford and MS Harbuz, 2005, An introduction to the HPA axis; KB Abel and JA Majzoub, Molecular Biology of the HPA axis.</td>
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<tr>
<td>Mon</td>
<td>2-Oct</td>
<td>Brain-Endocrine-Stress review</td>
<td>KJ Kovacs et al., 2005, Psychological and physiological stressors; I Akirav and G Rickter-Levin, 2005, Involvement of the Amygdala in the neuroendocrine and behavioral consequences of stress.</td>
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<td>Elenkov et al., 2005, Cytokine Dysregulation, Inflammation and Well-Being</td>
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<td>Mon</td>
<td>16-Oct</td>
<td>Stress &amp; Immunity reviews</td>
<td>Calcangni and Elenkov, 2005, Stress system activity, innate and T-helper cytokines, and susceptibility to immune-related diseases</td>
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<td>Salak-Johnson &amp; McGlone 2006 review;</td>
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<tr>
<td>Mon</td>
<td>23-Oct</td>
<td>Exam</td>
<td></td>
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<tr>
<td>Mon</td>
<td>30-Oct</td>
<td>Student papers</td>
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<tr>
<td>Mon</td>
<td>6-Nov</td>
<td>Student papers</td>
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<tr>
<td>Mon</td>
<td>13-Nov</td>
<td>Student papers</td>
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<tr>
<td>Wed</td>
<td>15-Nov</td>
<td>Student papers</td>
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<tr>
<td>Mon</td>
<td>27-Nov</td>
<td>Student papers</td>
<td></td>
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<tr>
<td>Mon</td>
<td>4-Dec</td>
<td>Final</td>
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Potential Student Papers:


