UPDATED DESCRIPTION FOR
IBC139, Biology of Stress
Instructor: Daniela Kaufer,
Department of Integrative Biology

Proposal for modifications:
- Modification #1: Change Course Title
- Modification #2: Change Enrollment Limit
- Modification #3: Change Course Syllabus
- Modification #4: Change Course instructor
- Modification #5: Change Course cross-listing
- Modification #6: Change Course units

Recent History of Course: The course “biology of Stress” was developed by Daniela Kaufer (IB) and Darlene Francis (Psych/PH). It was co-listed between IB and psych, was offered to 150 students per semester, and was taught for 3 semesters. It was taught last time in Fall 2011, and was not taught since because of other teaching requirements (Kaufer) and change of home department and hence teaching requirements (Francis left Psych and became 100% Public health).

Modification #1: Change Course Title
UPDATED Course Title: IB139: “The neurobiology of stress”
Rationale for change title of course from “the biology of stress” to “the neurobiology of stress”: The current title reflected the content of the course that was taught by both instructors. When Kaufer alone will teach the course, it will put an emphasis on Neuroscience context, as this is the focus of Dr. Kaufer’s training and research, therefore the new title reflects more accurately the course’s mission.

Modification #2: Change Enrollment Limit
UPDATED enrollment limit: 80
Rationale for the change in enrollment limit: The course was offered to 150 students when it was co-listed between the two departments. Each department provided one GSI position. To keep within the one GSI allocation of IB, I would like to change the enrollment limit to 80 students. The new size is also likely to facilitate better in-class discussion and active participation.

Modification #3: Change Course Syllabus
Updated syllabus:
Week 1: Introduction, general stress intro and history of stress research
Week 2: Stress physiology, HPA axis, allostasis
Week 3: Stress neurobiology (stress and the brain)
Week 4: Stress psychology (stress & emotions)
Week 5: Portrait of a silent killer and midterm 1
Week 6: Genetics & stress, Glucocorticoid receptor
This course will emphasize the interconnected and multidirectional relationships between biology, behavior and the social environment. The study of stress is necessarily an interdisciplinary endeavor. This course is designed to explore the role of genes, hormones and experiences as they affect the stress-response and subsequently brain and behavior.

**TEXT:**
- **READER:** Available from Copy Central
- Current research papers will also be used to supplement the text and lectures.

**Learning Objectives:**
- A mechanistic understanding of the Hypothalamic-Pituitary-Adrenal (HPA) axis.
- Establish the relevance of neuroscience/neuroendocrinology as proximate pathways through which stress can affect health
- Provide students with a working knowledge of how the effects of stress manifest biologically
- Illustrate the relevancy of basic stress research (from clinical and pre-clinical animal models) to many applied areas of health and well-being (such as clinical Psychology, medicine, social welfare, education)
- Provide a forum in which students from multiple disciplines with an interest in stress can come together.

**Grading System:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm 1</td>
<td>25</td>
</tr>
<tr>
<td>Midterm 2</td>
<td>25</td>
</tr>
<tr>
<td>Discussion</td>
<td>5</td>
</tr>
<tr>
<td>Assignment</td>
<td>5</td>
</tr>
<tr>
<td>Final</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Discussion sessions:**
Discussion is mandatory, and will cover new material that will be on your midterms and final. You need to attend > 60% of discussion session (meaning 7 discussion sessions) to get 5 points. It is a hard cutoff. If you attend less than 60% you get no points (no partial credit). You have to attend the section you are signed up for.

**Prerequisites:**
Bio1A or Psych 110 are prerequisite for this class. You will need a good understanding of the fundamentals of biology to do well in this class.