**Course syllabus:**

**IDH3931 (Class number 18256)**

**Understanding Traumatic Brain Injury**

***IDH 3931, UF Honors Program - Reads course / Special Topics / 2 Credits***

**Class dates: Fall 2018 (Aug 23; 30, Sept 6, 13, 20, 27, Oct. 4, 11, 18, 25, Nov. 1, 8, 15, 22 (no class- Holiday), 29 (Term paper prep),**

**Dec 5 (Term paper due 5PM); this course has no Final Exam.**

This course will use a single book to bring together our understanding of the various aspects of traumatic brain injury – including socioeconomic aspects, clinical practices in the diagnosis and management and treatment of TBI, mild TBI in the military and the short and long term sequelae of concussion in sports.

1. **General Information**

**Course Instructor KEVIN K. W. WANG, Ph.D.**

Director, Program for Neurotrauma, Neuroproteomics & Biomarker Research

Associate Professor of Emergency Medicine, Psychiatry and Neuroscience

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*Office hours*: By appointment only.

Please email Dr. Wang to schedule

**Location:** MBI-LG110A

**Time/day:** Thursdays, 4:05 – 6:00 pm R Period 9-10

1. **Course description and educational goals**

Annually, 1.7 million Americans sustain a traumatic brain injury (TBI) in the US. The spectrum of TBI includes severe, moderate and mild TBI as well as concussions. This course will use a single book “*Brain Neurotrauma: Molecular, Neuropsychological, and Rehabilitation Aspects*” by Firas H. Kobeissy” to bring together our understanding of the various aspects of TBI – including socioeconomic aspects, clinical practices in the diagnosis and management and treatment of TBI, clinical and basic research advances and the short and long term sequelae of concussion in sports.

This course is designed to accomplish the following overall goals:

On successfully completing the course, students will be able to:

* Explain the general pathogenesis of traumatic brain injury
* Describe the differences among various TBI types and severities
* Familiarize with clinical and basic research approaches and advances in TBI
* Understand current clinical management of TBI (from emergency medicine to hospitalization to neurointensive care)
* Learn about imaging and blood-based “biomarkers” for TBI and how they can be useful
* Acquire information on current practices in treating TBI
* List the symptoms of post-concussive syndrome and the chronic co-morbidities following TBI
* Acquire current knowledge about the short and long term sequelae of concussion in sports and everyday life

**III Rationale and course design and target studentship in the Honor curriculum**

There are about 1.7 million incidents of civilian TBI in the United Sates annually. In addition, the Armed Forces Health Surveillance Center has documented that over 300,000 US service members sustained a confirmed TBI between 2000 and 2014. While 80-85% TBI’s are categorized as mild (mTBI), predicting outcomes from mTBI is problematic, as some individuals (approximately 30%) are more susceptible to develop a range of persistent multi-factorial postconcussion syndrome and/or CNS-mediated disorders including cognitive impairment, neurological symptoms, neuropsychiatric disorders and/or neuro-endocrine dysregulation. TBI sufferers are also more prone to develop neurodegenerative diseases such as Alzheimer’s disease (AD), Parkinsonism and Chronic Traumatic Encephalopathy (CTE) - which may not manifest until years after the initial injury event(s).

Most of our students have undoubtedly exposed to some aspects of TBI directly or indirectly (i.e. via the various news outlet and social media or from personal experience). Due to the complexity of TBI and the diverse neurobiological pathways linked to TBI, there are many interesting and intertwined aspects of TBI – including socioeconomic aspects, clinical practices in the diagnosis and management and treatment of TBI, clinical and basic research advances and the short and long term sequelae of concussion in sports.

Our target studentship is intentionally broad. This course will use a single book “Brain Neurotrauma: Molecular, Neuropsychological, and Rehabilitation Aspects” as anchor, but the students will be asked to do research and reading to go beyond this book and participate in facilitated presentation. The major goal of this course is to allow each enrolled student to acquire global understanding of TBI interactively, but also conduct some in-depth research and analysis on one aspect of TBI.

**IV. Course calendar**

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| **WEEK #** | **FALL 2018 CLASS DATE** | **IDH3931 (Class number 18256) Understanding Traumatic Brain Injury** |
| 1 | 23-Aug | Introduction to TBI: etiology, epidemiology, clinical and social burden  |
| 2 | 30-Aug | Severe TBI and their clinical management (neurointensive care)  |
| 3 | 29-Jan | Moderate, mild TBI and their Clinical management (Emergency medicine to hospitalization) |
| 4 | 13-Sep | Neuroimaging and TBI |
| 5 | 20-Sep | TBI in military personnel and Veterans (blast injury) |
| 6 | 27-Sep |  Sports-related TBI, concussions (professional, collegiate, high school, return to play) |
| 7 | 4-Oct | Biofluid-based biomarkers for TBI |
| 8 | 11-Oct | Cognitive, neurological and neuropsychiatric consequences after TBI  |
| 9 | 18-Oct | From TBI to chronic traumatic encephalopathy (CTE) and other neurodegenerative diseases |
| 10 | 25-Oct | Animal models of TBI and their preclinical utilities. |
| 11 | 1-Nov | Research advances in TBI: from neuroprotection to Neurorestoration  |
| 12 | 8-Nov | Current therapeutic and other treatment options for TBI in human  |
| 13 | 15-Nov | Clinical trials in TBI (observational and intervention studies)- what we have learned |
| 14 | 22-Nov | *Thanksgiving Holiday - No Class* |
| 15 | 29-Nov | No class: Final synthesis paper preparation week |
| 16 | 5-Dec | Term paper due by email to Dr. Wang (5 pm cut-off) |

**V Evaluations and grading**

Grading will be in accordance with UF policy (https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx) and will be based upon a combination of your classroom participation and also written assignments as follows:

 **30%** -- weekly written synthesis papers (12 papers, 2.5% each)

**40%** -- participation

**20%** -- final synthesis paper

**10%** -- your facilitated presentation (in one class)

**100% total possible**

This is a discussion-based course, during the first week’s class, the instructor will give an overview of TBI and also a narrative about the book and how the class will be conducted and how the students will be graded.

From the second week on, each week one student, with facilitation and support from the Instructor, will lead an engaging discussion on an aspect of traumatic brain injury - often align with one or two chapters in the book: “*Brain Neurotrauma: Molecular, Neuropsychological, and Rehabilitation Aspects*”. All students will be expected to prepare for each week’s topic area in advance. It is the student’s responsibility to find at least one chapter that is most relevant to the topic of the week to focus on (a feasible goal given that each chapter averages under 15 pages). This format will be repeated weekly, with each week a new student leading the discussion. The student’s goal in facilitation is to summarize the key components of the topic/chapter you are assigned and then to frame some thought provoking questions around that topic to inspire discussion among your peers. The use of ppt or computers for the presentation is not encouraged. The instructor will have some prepared ppt slides as supplementary materials for each class, as needed. Through this format, the students will learn the topic of interest in a collaborative and interactive fashion.

By the next week’s class, students will turn in a written report (no more than 3 double spaced pages) on the previous week’s topics and the key learning they have acquired. The students are also encouraged to write down what they learn as related to their lives or people they know or news they have encountered. It is recommended that the student write this report soon after class while the topic is still the freshest on his/her mind. The student turns in hard copy of the paper with the student’s name and date on it. These papers will be returned to the students at the next class period. 25% will be deducted from a given synthesis report for every day late.

A final synthesis paper will consist of an 8 page (no more than 10), double spaced, written synthesis on one topic area that has either been discussed or has not discussed as a major question related to the TBI. The final synthesis report should be emailed to the instructor Dr. Kevin Wang by 5 pm on its due date. 25% will be deducted from the final synthesis report for every day late.

**VI Required materials**

Required text: *Brain Neurotrauma: Molecular, Neuropsychological, and Rehabilitation Aspects*

*By Firas H. Kobeissy February 25, 2015 by CRC Press*

*Reference - 725 Pages - 212 B/W Illustrations*

*ISBN 9781466565982 - CAT# K16127*

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**VII Attendance and participation**

“Requirements for class attendance, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.”

All students are expected to participate in discussions within the class, every class session. As part of this, use of phone or computers for texting, social media communication, or talking, is prohibited since this distracts you as well as your peers from an engaging discussion. Laptops and tablets are allowed only if used to facilitate your class performance (e.g., taking notes, reading relevant literature). Please no eating during class, though drinks are ok. All students should plan to arrive prior to the start of class.

**VIII Miscellaneous important information**

1. **Accommodations for students with disabilities:**

“Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.”

1. **Online course evaluation process:**

“Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.”

1. **Student conduct and demeanor:**

I expect students to be passionate about topics within this course and to approach the discussions with creativity and thoughtfulness. While critical discussion is encouraged, all students are expected to be respectful of unique opinions which may differ from their own.

1. **University policy regarding cheating, plagiarism, etc:**

“UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.”

1. **Campus resources:**

The following resources are available to you at UF:

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392- 1575 so that a team member can reach out to the student.

Counseling and Wellness Center:

http://www.counseling.ufl.edu/cwc/Default.aspx, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS) Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies). http://www.police.ufl.edu/

1. **Academic resources:**

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/>

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.