Course: **PSB4654 Chemical Senses and Behavior**

Section: 2003

Semester: **Fall 2012**

Time: **Wednesday, 4:05 to 6:35 pm**

Room: **129 Psychology**

Professor: **Dr. David W. Smith**

337 Psychology
273-2152
dwsmit@ufl.edu

Office hours by appointment: Tuesday and Thursday afternoons

Readings: PDFs of journal articles, at no charge through UF subscriptions.

**GENERAL TOPICS TO BE COVERED IN COURSE**

1. **NEUROBIOLOGY OF OLFACTORY SYSTEM**
   
   A. Peripheral Anatomy  
   B. Central Tracts and Anatomy  
   C. Olfactory Transduction  
   D. Odorant Coding  
   E. Sub-divisions of the Olfactory System  
   F. Olfactory Behavior and Perception  
   F. Changes in Olfaction and Links to Disease  

2. **NEUROBIOLOGY OF GUSTATORY SYSTEM**
   
   A. Peripheral Anatomy  
   B. Central Tracts and Anatomy  
   C. Taste Transduction  
   D. Taste Coding  
   E. Interaction of Taste and Smell  

3. **NEUROBEHAVIORAL RELATIONS IN CHEMORECEPTION**
   
   A. Fetal chemical exposure and taste preference  
   B. Relations Between Changes in Chemical Sensitivity and Neurodegenerative Disease  
   C. Supertasters - Implications for Health
Evaluation Breakdown

Exam One - (Olfaction) ................................................................. 15%
(26 September)

Exam Two - (Gustation) ................................................................. 15%
(7 November)

Oral Presentation - (Topic of Choice) ........................................... 25%
(As scheduled, last 3 class periods)

Term Paper - (Topic of Choice, in consultation with Professor) ........ 30%

Synopsis of Fellow Student Presentations ......................................... 15%
Tentative Schedule of Classes

Wednesdays

22 August  
Introduction and Mechanics

29 August  
Chemical Senses Overview, Background, Stimuli
Readings:  
Dusenbery (1992), Chpt. 7 (pp 121-144) - “Chemical Stimuli” (PDF)
Wilson (2006), Chpts 1,2 (pp 1-34) (PDF)

5 September  
Olfactory System Anatomy, transduction and coding
Readings:  
Shipley et al. (2008) “The Olfactory System”

12 September  
Olfactory Transduction and Coding (Olfactory Bulb)

19 September  
Central Odorant Coding, Adaptation and Memory

26 September  
NO CLASS - Take Home Exam

3 October  
Gustatory Anatomy

10 October  
Gustatory Coding

17 October  
Gustatory Transduction to Behavior

24 October  
Flavor - Merging Taste and Smell, Supertasters

31 October  
Dysfunction in Taste and Smell - Neurodegenerative Disease

7 November  
NO CLASS - Take Home Exam

14 November  
In-Class Presentations - MANDATORY ATTENDANCE

21 November  
NO CLASS THANKSGIVING

28 November  
In-Class Presentations - MANDATORY ATTENDANCE

5 December  
In-Class Presentations - MANDATORY ATTENDANCE
How to access Purves et al., 2001 via NLM (PubMed.org)

Purves et al. (2001) Neuroscience can be accessed in eBook form via:

www.ncbi.nlm.nih.gov/books/NBK10799/