### SYLLABUS

**NUTRITION: Methods in Sensory Analysis**  
**11:709:443**

**Professor:** Paul Breslin  
**Office Hours:** by appointment

**Class Hours:** Monday & Wednesday 10:55-12:15pm  
**Location:** Hickman 114

**Prerequisites:** 11:709:201, 11:709:255

**Readings to be determined.**

Course materials: on Sakai

**Grades** will be based upon class participation (including discussions and questions 10%), quizzes (5%), midterm (35%) and final exams (50%).

<table>
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<tr>
<th>Week</th>
<th>Dates</th>
<th>Topics</th>
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<td>1</td>
<td>September 7</td>
<td>Introduction Course Synopsis/ Review of Course Objectives &amp; Measurement and Data Types</td>
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| 2    | September 12, 14 | Introduction to Quantitative Variation and Statistics  
Taste Biology and Sensation I |
| 3    | September 19 & 21 | Taste Biology and Sensation II  
Taste Biology and Sensation III |
| 4    | September 26 & 28 | Olfaction and Sensation I  
Olfaction and Sensation II |
| 5    | October 3 & 5 | Olfaction and Sensation III (RH)  
Somatosensation I |
| 6    | October 10 & 12 | Somatosensation II  
Sensory Coding (YK) |
| 7    | October 17 & 19 | Mid-Term Exam  
Introduction to Psychophysics |
| 8    | October 24 & 26 | Psychophysics: Sensitivity Measurement  
Psychophysics: Discrimination Testing |
| 9    | October 31 & November 2 | Thurstonian Scaling,  
R-Index |
| 10   | November 7 & 9 | Intensity Scaling  
Time-Intensity Measurement/Adaptation |
| 11   | November 14 & 16 | Context Effects and Demand Effects  
Descriptive Analysis |
Week 12 Classes, November 21 & 23  Hedonic/Affective Scaling  
Thanksgiving Break – No Class Wednesday Nov 23  
(Friday Schedule Observed)

Week 13 Class, November 28 & 30  Texture Analysis  
Preference Testing

Week 14 Classes, December 5 & 7  Multi-modal Sensory Integration  
Individual Sensory Differences and Genetics

Week 15 Classes, December 12 & 14  Modeling Healthy Foods  
Make-Up Lecture/Review

Reading Day December 15  Review

This is a lecture based course and participation in lectures is required. If you miss more than 5 classes, constituting 20% of the course or more, you cannot pass this course.
Objectives, Rationale, Learning Goals

The purpose of this course is to provide nutrition majors a basic background in human orosensory physiology and sensory testing methods.

By the end of this course:

- The student will demonstrate knowledge of basic statistical insights needed to conduct sensory and psychophysical experiments.
- The student will demonstrate multi-disciplinary knowledge of how taste, smell, and oral somatosensation work from the perspective of anatomy, physiology, and molecular biology.
- The student will identify and know how to employ a variety of commonly used sensory and diagnostic testing methods ranging from signal detection theory and Bayesian analysis to descriptive analysis.
- The student will engage in analytical thinking and solve real world problems that arise in food industry and medicine, such as how to reduce salt or sugar in our diet without making food undesirable.