



**SPPA 6160-101**  
**Neurological Bases of Speech and**  
**Language Disorders, Fall Semester 2014**  
Subhash C. Bhatnagar, Ph.D.

Email: [Subhash.bhatnagar@marquette.edu](mailto:Subhash.bhatnagar@marquette.edu)  
Telephone 288-3390, Office: Cramer Hall – 230H  
Office Hrs: T, TH 10:00-11:00

**I. Course Objectives:**

After this course, students should be able to:

- Explain normal functional anatomy of the brain;
- Define the clinical concepts of clinical neurology;
- Explain the physiology and anatomy of the motor and sensory (somatic, visual, auditory, and proprioception) systems;
- Describe brain circulatory mechanisms;
- Apply neuroscience to human behavior with special reference to communicative skills and other pertinent behaviors important to Speech-Language Pathologists.

**II. Required Texts (Library Code NEURO):**

1. **BS:** Bhatnagar, Subhash. *Neuroscience for the Study of Communicative Disorders*. 4<sup>th</sup> Edition. Baltimore, Lippincott Williams and Wilkins. RC 423.B53, 2013.

**Reference Texts:**

1. Taber's Cyclopedic Medical Dictionary,. 21<sup>st</sup>.th Edition. Philadelphia, F.A. Davis. RC 121.T18. 2009.
2. Digital Anatomist. Health Science Center for Education. Post. Box 357161 University of Washington. Seattle 98195-7161  
digital.anatomist.com
3. **DH:** Duane E. Haines. Neuroanatomy: An Atlas of Structures, Sections and Systems. 7th Ed. MD, Urban & Schwarzenberg, QM451 .H18 2008.

**III. Meets the ASHA Standards for Certification (9/1/2014)**

Knowledge Outcomes: IV-A, IV-B, IV- C, IV-D, IV-E, IV- F, IV-G  
Skill Outcomes V-A and V-B

## WI-DPI Standards

Satisfactory completion of this course assists you in meeting the following requirements for WI-DPI Licensure  
 Standard 1 a,e,  
 Standard 2. Learning a-e  
 Standard 2, Applications a and d.  
 Standard 3, e  
 Standard 5. a-d.  
 Standard 6. a-e  
 Standard 8.  
 Standard 9. a-g

### IV. Requirements for a grade:

- **Four objective sectional examinations.** Each test covers lectures, lab material, and textbook readings discussed before the exam date.
  - 84 points
- **Eleven completed quizzes.**
  - 10 points
- **Studying laminated labeled brains** for 5 hours in the neuro lab. Time spent needs to be documented and cannot be completed in less than four lab visits.
  - 2 points
- **Navigating Digital Anatomist Software** for 5 hours. Documented log needs to be submitted
  - 2 point
- **Writing a neurolinguistic case study question**
  - 2 point

Each Exam is given only at the scheduled time. Failure to take an exam will result in 0 point. There are no make-up exams, unless you present me with an official excuse (see the absence policy).

### Grading Scale:

<b>A</b>	<b>94-100</b>
<b>AB</b>	<b>89-93</b>
<b>B</b>	<b>83-88</b>
<b>BC</b>	<b>78-82</b>
<b>C</b>	<b>73-77</b>

## V. Attendance Policy

On time attendance in class and lab is an important part of professional behavior. Each lecture in this class deals with important clinical/functional information.. Any absence prevents you from getting the proper benefit of the course. The instructor does not differentiate between "excused" and "unexcused" absences. Tests missed because of an absence cannot be made-up unless an official excuse is presented. Make up tests can only be given during final exam week. Regardless of reason(s) for the absence, the student will be responsible for the material covered in the class.

Acceptable anticipated absences (departmental norm):

- The student is away from campus representing an official university function, e.g., participating in a professional meeting, as part of a judging team, or athletic team.
- Required court attendance as certified by the Clerk of Court.
- Religious observances when certified by a letter from the student's parent(s) or religious leader.
- Required military duty as certified by the student's commanding officer.

Acceptable emergency absences:

- Illness or injury when certified by an attending physician, dentist, or nurse. The certification should show the date service was provided to the student but should not describe the nature of that service.
- Death or serious illness in the immediate family (parents, step-parents, siblings, spouse, children, step-children, foster children, in-laws, sibling in-laws, grandparents, great grandparents, step-great grandparents, grandchildren, aunts, uncles, nieces, and nephews) when certified by a letter from the student's parent(s) or spouse.

## VII. Marquette University Policy on Multiple Exams

If a student has **four** exams in one day, the student has the option to ask **all four instructors** about the possibility of changing the exam to another time. If none of the four instructors agrees, or if they changed exam time does not fit the student's schedule, the student may contact the College or Registrar staff about the possibility that they might proctor a special exam time with the student, if the instructor agrees.

## VIII. Policy on Academic Dishonesty

Refer to the following website regarding guidelines and disciplinary procedures relating to academic misconduct:

<http://www.marquette.edu/academics/regulations/acaddishonesty.html>

**IX. Disability related Issues**

Please see me as soon as possible if you require any accommodations because of a disability.

**X. Dates to Remember:**

August	26	No Lab
<b>September</b>	<b>23</b>	<b>Examination One</b>
October	7	No Class and No Lab
October	21	Late Lab (1:30-1:45)
<b>October</b>	<b>23</b>	<b>Examination Two</b>
November	4	Late Lab
November	6	Late Lab
<b>November</b>	<b>13</b>	<b>Examination Three</b>
November	6-11	Case questions
November	20	No lab and no class
November	27	No Class and Non Lab
<b>December</b>	<b>10</b>	<b>Examination Four</b>

**Quiz Schedule:**

Quiz One:	September 11
Quiz Two:	September 18
Quiz Three:	September 30
Quiz Four:	October, 14
Quiz Five:	October 16
Quiz Six :	October 21
Quiz Seven:	November 4
Quiz Eight:	November 4
Quiz Nine:	November 11
Quizzes Ten & Eleven:	December 4

**XI. Class Activities:****August 26 (NO LAB)**

- Course orientation
  - Reading: Class Syllabus

**August 28**

- Applications and Relationships of Neuroscience
  - READING: BS: Chapter 1, pp. 1-32
- *Technical Terms and Neurological Concepts*
  - **READING: BS: Chapter 1, pp. 1-32**

**September 2, 4, 9, 11, 16, 18**

- Divisions of the brain
  - Prosencephalon

- Mesencephalon
- Rhombencephalon (Cerebellum, pons, and medulla)
  - **READING: BS: Chapter 2, pp. 35-65**
- Anatomy of the Spinal Cord
  - **READING: BS: Chapter 2, pp. 65-71**
- Ventricles:
  - **READING: BS -Chapter 2, pp. 71-73**
- Axonal Connections
  - **READING: BS: Chapter -2, pp. 73-77**
- Meninges
  - **READING: BS: Chapter 2, pp. 77-84**
- Cranial Nerves
  - **READING: BS: Chapter 2, pp. 84-87**
- Autonomic Nervous System
  - **READING: BS: Chapter 2, pp. 87-89**
- Cerebral Cortex: Functional Organization
  - **READINGG: BS: Chapter 19, pp. 441-444.**

=====

**September 23                      EXAMINATION ONE**

(Class meets after the examination)

=====

**September 23-25**

Internal Morphology of the Neuraxial System

- Transverse Sections of the Spinal Cord
  - **READING: BS: Chapter 3. pp. 95-100**
- Cross Section of the Brain stem (Medulla/Pons/Midbrain)
  - **READING: BS: Chapter 3, pp. 100-106**
  - **READING: BS: Chapter 3, pp. 106-109**
  - **READING: BS: Chapter 3, pp. 109-115**
- Forebrain (Basal Ganglia and Diencephalon)
  - **READING BS: Chapter 3, pp. 115-123**
- Horizontal Sections of the Brain
  - **READING: BA: Chapter 3, pp. 123-131**
  -

**September 30-October 2**

- Cellular Organization and Functioning
  - **READING: BS: Chapter 5, pp. 152-168**

**October 7**

- **No Class and No Lab**

**October 9**

- Diencephalon
  - **READING: BS: Chapter 6, pp. 175-185**

**October 14-16**

- Development of the CNS.
  - **READING: BS: Chapter 4, pp. 133-150**

**October 21**

- **Blood Circulation. (Also See the coverage in SPPA 249)**
  - **READING: BS: Chapter 7, pp. 186-211**
- Cerebral Spinal Fluid System
  - **READING: BS: Chapter 8, pp. 212-219**

=====  
**October 23 Examination Two**

Class after the Examination

**October 28 and 30**

- **VISUAL SYSTEM**
  - **READING: BS: Chapter 12, pp. 273-293**

**October 30 and November 4**

- Auditory System
  - **READING: BS: Chapter 9, pp. 225-238**

**November 6-11**

- Somatosensory System
  - **READING: BS: Chapter 11, pp. 251-272**

=====  
**November 13 Examination Three,**

(Class meets after examination)

**November 18**

**MOTOR SYSTEM**

- Spinal Cord System

**READING: BS: Chapter 13, pp. 295-315**

**November 20** ASHA- No Lab and No Class

**November 25 and December 2**

**MOTOR SYSTEM**

- Spinal Cord System

**READING: BS: Chapter 13, pp. 295-315**

- Cerebellar System

**READING: BS: Chapter 14, pp. 316-326**

- Basal Ganglia

**READING: BS: Chapter 15, pp. 328-345**

- Motor Cortex

**READING: BS: Chapter 16, pp. 346-358**

**November 27 Thanksgiving Break**

**December 4**

- Rules for Localizing Lesions Chapter 1, pp. 30-31
- Solving Clinical Problems

=====  
Wednesday, December 10  
Examination Four/Final  
8:00–10:00 AM  
Room: Cramer 087  
=====