University of Utah, Department of Special Education
Understanding the Brain, Damage to the Brain and Cerebral/Cortical Visual Impairment
SP ED 5495/6495 2 Credit Hours
Course Syllabus, Fall 2019

Instructors: Elizabeth Dennison and Darci Crossley
Time: Thursdays 4:30-6:30 pm
Location: Distance, room in SAEC College of Ed building
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Multi-University Consortium Teacher Preparation Program in Sensory Impairments

Course Overview:
The general purpose of this course is to familiarize students with early brain development, brain damage and how it affects functioning and learning. Other medical conditions that are associated with vision loss will also be discussed such as prematurity, traumatic brain injury, autism, syndromes, maternal drug use, and seizures. Cortical or Brain Damage Related Vision Loss will also be covered along with assessment techniques and interventions for this visual disability.

Prerequisites:
SP ED 5410/6410 Introduction to Visual Impairments

Course Content and Student Objectives:
By the conclusion of this course, students will be expected to have an understanding of the following topics:
1. Basics of early brain development and structure and function of the brain and central nervous system,
2. How the brain is impacted by prenatal, perinatal and postnatal insults and medical conditions with associated vision problems. This includes prematurity, traumatic brain injury, maternal drug use, autism, syndromes, and seizures.
3. Basic interventions and resources for working with young children with these other brain related medical conditions.
4. Brain damage related vision loss (CVI), characteristics, assessment, interventions.

Required Reading Materials
Extra readings will be emailed ahead and the powerpoints will be sent Big File Transfer through USU a day ahead. It is best to keep a three ring binder to organize the articles into for ease of reading. The following books will be required for the course:

- *What’s Going on in There* by Lise Eliot (book on early development of the brain in children birth to five) available on Amazon.com ($10-15)
- *Vision and the Brain* by Amanda Hall Lueck and Gordon N. Dutton, editors, available from American Foundation for the Blind Press or on Amazon.com ($75)
- *Cortical Visual Impairment an Approach to Assessment and Intervention* by Christine Roman-Lantzy ($25 used)

The following book is highly recommended: *Strategy to See* by Diane Sheline, order from strategytosee.com
Teaching and Learning Methods:

The course will include lecture, discussion, group activities and hands-on learning. Assignments will be sent to the instructors by email and will be mailed back to the students in a timely fashion. The instructor will need current email and snail mail information for each student.

Policies and Expectations:

It is expected that assignments and readings will be completed outside of the scheduled class meeting times and that students and instructor will arrive prepared for each class session to participate in discussions and activities.

Class attendance is critical. Students are responsible for obtaining class notes, handouts, and announcements from other students in the event of an absence.

All assignments are to be typed, computer generated or brailled (except interlined assignments) and submitted by deadlines noted in this syllabus. Criteria for grading all written assignments will include content, writing style (grammar, sentence structure, capitalization, punctuation, and professional vocabulary), and spelling (refer to APA 6th edition). Students are responsible to adhere to all professional and ethical practices as outlined in the Department of Special Education Student Manual, and as defined by the professional organizations of CEC and AER for teachers of students with disabilities.

It is expected that students will maintain a respectful and civil atmosphere during class meetings. Thus, expectations are that students:

- Prevent disruptions by turning off and refraining from use of cell phones and beepers, and by putting away extraneous reading materials. Use of laptop computers in class is not allowed without the instructor's permission.
- Adhere to the University of Utah code for student conduct.

Americans with Disabilities Act (ADA)

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services. (www.hr.utah.edu/oee/ada/gude/faculty/)

The Department of Special Education is committed to policies of equal opportunity and affirmative action and prohibits discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, age or status as a Vietnam veteran, disabled veteran or person with a disability. The department of Special Education seeks to provide equal access to its programs, services and activities for people with disabilities. Reasonable prior notice is needed to arrange accommodations. Evidence of practice not consistent with these policies should be reported to the Office of Equal Opportunity and Affirmative Action, 581-8365.

Course Format, Schedule, and Location

Class will take place weekly for two hours every Thursday from 4:30 to 6:30 pm. There will be some occasional times when Elizabeth Dennison will teach by distance from Logan. For some of the sessions, we will have guest speakers such as an ophthalmologist and pediatrician. Modifications will be made for students out of state or in rural areas who are not able to travel to Salt Lake City.
Schedule, Content, Assignments, Readings

Class 1, August 22: Introductions, Course Overview/Requirements, Basic Brain Development and Functioning, 4:30-7 pm (Bess, face-to-face)
Prepare for class
Read Chapters 1 and 2 in text, What’s Going on in There? and Chapter 5 in Vision and the Brain on plasticity of the brain.
Class (2 hrs)
Course Overview and Requirements
Basic Anatomy and Function of the Brain
Early Brain Development
Assignment
1. View the section on the infant brain from the PBS special, The Secret Life of the Brain available on Youtube. In at least one page, summarize the key points covered. OR
2. View an hour’s worth of Crash Course Series videos on the brain from the list sent to you.

Class 2, August 29: The Prenatal Period, 4:30-7 pm (Darci, face-to-face)
Prepare for class
Read Chapter 3 in text, What’s Going On in There? and extra readings emailed to you ahead.
Class (2 hrs)
Prenatal Influences on Brain Development Which Impact Vision
Genetic Syndromes
Seizures and Ocular Side Effects of Seizure Medications
Assignment
1. Select one of the types of prenatal exposures (e.g., alcohol, drugs, toxins, maternal stress and diet, infections, alcohol, etc.) and read up on it, using at least four sources, one source cannot be the web but must be a journal article or chapter in a book. Write at least a 2-3-page report on the subject and be sure to discuss the potential impact on the infant’s development as well as some helpful interventions. Or you could select a syndrome that includes vision loss to write about.
   OR
Do a writeup on a postnatal condition for class 4

Class 3, September 5: The Perinatal Period and Prematurity, 4:30-7 pm (Dr. Allison Judkins, Neonatologist from PCMC presenting)
Prepare for class
Extra readings emailed ahead.
Class (2 hrs.) (Note: I am hoping to have a NICU nurse or doctor present to the class.)
Complications of Prematurity-the medical challenges
Special Needs of Infants Born Prematurely
Retinopathy of Prematurity
Assignment
1. Interview a parent of a young child with vision loss who was born 2-3 months early about their early experiences with their baby in the NICU and then after they first arrived home. Summarize what you learned and how that might help you in the future better serve infants who were premature and their families.
September 12: No class as Bess and Darci will be at the WREIC Conference in Denver

Class 4, September 19: The Postnatal Period, 4:30-7 pm (Darci face-to-face)
Prepare for class
Read articles sent ahead of time by email.
Class (2 hrs.)
Events That Result in Damage to the Young Brain and the Visual System (near drowning, choking, infections, brain tumors, toxic substances, traumatic brain injury-accidental and non-accidental, stroke, maternal neglect and stress, failure to thrive)
Assignment
1. Select one of the types of postnatal exposures (e.g., near drowning, infection, brain tumor, accidental or non-accidental trauma, maternal stress and neglect.) and read up on it, using at least four sources, one source cannot be the web but must be a journal article or chapter in a book. Write at least a 2-3-page report on the subject, focusing on the parent’s experience, challenges, and adjustment to a baby that was once healthy.

Class 5, September 26: Neurologist, Dr. Morita Lamb, 4:30-7, face-to-face
Prepare for class
Read articles sent ahead of time by email.
Class (2 hrs.)
Diagnosing brain insults, imaging techniques, what we can learn from them, seizures and their treatment, TBI and its treatment, autism, etc.
Assignment
None at this time.

Class 6, October 3: Wiring Up of the Visual Brain, Visual Processing, Impairment of Vision Due to Damage to the Brain, 4:30-7 pm (Bess face-to-face)
Prepare for class
Read Chapter 9 in text, What’s Going On in There? and Chapters 1, 2, 3 and 6 in Vision and the Brain
Class (2 hrs.)
How the Brain Wires Up Visually
Visual Processing in the Brain
Impairment of Vision Due to Damage to the Brain
Assignment
1. Do a writeup on a specific visual processing problem associated with occipital lobe, ventral or dorsal stream functions. Explain it; describe the behaviors and challenges in functioning and learning because of it and possible interventions to use.

October 10: U of U Fall Break, no class
Class 7, October 17: CIV-Diagnosis and Related Issue, Dr. Jardine from the Moran Eye Center, 4:30-7 pm (face-to-face)

Prepare for class
Read Chapters 7, 4, and 9 in Vision and the Brain. Chapters 1-3 in Dr. Roman’s book

Class (2 hrs.)
CVI and its Characteristics
Impact of CVI on Development
Medical Diagnosis and the Role of the Educational Team and Family in Early Diagnosis
Eye Movement Disorders in Children with CVI
Refractive Errors, Impaired Focusing and the Need for Eyeglasses

Assignment
1. Observe a young child (infant or preschooler) with CVI in daily routines and describe the characteristics of CVI that you see.

Class 8, October 24: Tier 1-Functional Vision Assessment of Children with CVI (lower order and higher order visual skills), 4:30-7 pm (Bess face-to-face)

Prepare for class
Read Chapters 10, 12 in Vision and the Brain.

Class (2 hrs.)
Assessment of Functional Vision in Children with CVI, Tier 1

Assignment
None

Class 9, October 31: Assessment for Children with Multiple Disabilities, Using Christine Roman’s CVI Range Scale, 4:30-7 pm (Darci face-to-face)

Prepare for class
Read Chapter 14 in Vision and the Brain; chapters 4 & 5 in Dr. Roman’s book

Class (2 hrs.)
Tier 2 & 3 Assessment for Multiply Involved Children
Dr. Roman’s Parent Interview and the CVI Range Scale
Using it and Interpreting Results
Ideas from Strategy to See

Assignment
1. Use Dr. Roman’s CVI Range Scale discussed in class with a younger student. Discuss the results and their implications for daily functioning in at least 1-2 pages. Turn in the scoresheets/observations form to be filled out with your write-up. (Could use Bess clips of Chase)

Class 10, November 7: Interventions for Children with CVI and Additional Disabilities: Roman’s Phase I, II, and III, 4:30-7 pm (Darci face-to-face)

Prepare for class
Read Chapters 14, 19, 20 and 21 in Vision and the Brain; chapter 6 in Dr. Roman’s book

Class (2 hrs.)
Overview of Methods and Principles
Dr. Roman’s Phase I, II, III Interventions
Other Resources and Materials
Ideas from Strategy to See
Making some materials
Assignment
1. Develop a plan for intervention activities, modifications, strategies to use with the child with CVI and additional disabilities that you assessed last week. The plan should address interventions for use of vision in near tasks such as early literacy and play, in moving about in space, in daily care and in social interactions. If you were not able to work with an actual child, you will be given a child’s case study writeup to look over then develop a plan. Your paper should be 2-3 pages.

Class 11, November 14: Tier 2 Assessment of Children with CVI and Higher Order Visual Processing Problems, Dr. Dutton Interview, 4:30-7 pm (Bess face-to-face) (class may be at USDB in Ogden due to a PIP workshop)
Prepare for class
Read Chapters 11, 15, 16, and 17 in Vision and the Brain; look at the cviscotland.org website
Class (2 hrs.)
Tier 2 Assessments including Dr. Dutton’s Interview
Dorsal/Ventral Stream Problems
Assignment
1. Spend an hour on the CVI Scotland website and summarize in 1-2 pages what you learned.

Class 12, November 21: Higher Order CVI Interventions, 4:30-7 pm (Bess face-to-face)
Prepare for class
Read Chapters 11, 15, 16, and 17 in Vision and the Brain
Class (2 hrs.)
CVI Meltdowns, Safe Places, Z-3 strategies, etc.
Interventions using Dr. Dutton’s materials and some others
Assignment
1. Choose Case study C or P, fill out Dutton form, summarize Ventral/Dorsal Stream problems and interventions to try. OR
2. Work with an experienced TVI to assess a child using Dr. Dutton’s History Taking Method or one of the other tools/methods discussed in class. Discuss the results and their implications for daily functioning in at least 2-3 pages. Turn in the scoresheets/observations form to be filled out with your write-up. Discuss interventions to try.

November 28, Thanksgiving, no class

Class 13, December 5: Cerebral Palsy, guest speaker Shawn Mower, PT, 4:30-7 pm
Prepare for class
Read articles mailed ahead of time to you; Chapter 11 in What’s Going on in there?
Class (2 hrs.)
CP and related problems
Vision Problems in Children with CP
Interventions and Modifications
Assignment
None

Class 14, December 12: Take-home final, all assignments in
Course Requirements and Grading Criteria:
You will be evaluated and earn points toward a final grade in several ways.

• Participation in the onsite classes and discussions (20 points X 13 classes).
• Completing assignments (15 points each X 9 of them).
• An exam (100 points); we could break content into a midterm after the brain and problems content weeks 1-6; then have the final cover CVI.
• When reading assignments, I look for the following:
  - Content: Ideas and activities based on best practice; reflect what you were to have read and learned in class; and relevant to the child and family.
  - Completeness: How well you met the intent of the assignment.
  - Grammar/Spelling/Readability: As a professional, you should be able to share information clearly whether spoken or written. Remember to use a spell/grammar checker if you struggle with this.
• Papers should be typewritten with appropriate references as needed.
• Let me know if and why an assignment will be late and when you plan to get it in.

Points Towards Your Grade
Participation in the classes and discussions 260
(13 X 20).
Completing weekly assignments and readings 135
(15 points each X 9 of them)
An exam (s) (100 points) 100
495

To calculate your grade, divide the total points (540) into points you earned (e.g., 450/495= 90%). Use table below to find the letter grade.

A 93%
B 85-92%
C 77-84%
D 70-76%
F Less than 70%

Graduate Credit:
The graduate assignment for this course will be identified by the instructor and the student. Graduate students are expected to contact the instructor early in the semester with any questions regarding due dates and other requirements.