Graduate Programs—NEW COURSE PROPOSAL

DEPARTMENT: COMMUNICATION SCIENCES & DISORDERS

RECOMMENDED COURSE IDENTIFICATION:

PREFIX SPA COURSE NUMBER 6438 LAB CODE (L or C) 

(TO OBTAIN A COURSE NUMBER, CONTACT HMALDONADO@FAU.EDU)

COMPLETE COURSE TITLE: GENETICS OF COMMUNICATION DISORDERS

CREDITS: 3


EFFECTIVE DATE

(first term course will be offered)

Fall 2015

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR X SATISFACTORY/UNSATISFACTORY

COURSE DESCRIPTION, NO MORE THAN THREE LINES:

Students will study the basic concepts of genetics and its relation to communication sciences and disorders including but not limited to the disorders of speech and hearing. They will also learn about the hereditary syndromes and birth defects associated with speech, language, cognition and hearing impairments. They will gain knowledge about genetic counseling and interpretation of genetic data.

PREREQUISITES *: NA

COREQUISITES: NA

REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL): NONE

* PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: PhD (TERMINAL DEGREE IN RELATED FIELD)

MEMBER OF THE GRADUATE FACULTY OF FAU AND HAS A TERMINAL DEGREE IN THE SUBJECT AREA (OR A CLOSELY RELATED FIELD)

Faculty contact, email and complete phone number:

Ali Danesh, PhD
danesh@fau.edu
(561) 297-2071

Please consult and list departments that might be affected by the new course and attach comments.

Exercise Science and Health Promotion, Exceptional Student Education, Schmidt College of Science, Department of Biology

Approved by:

Department Chair: Bylja Duvvuri-Wilson

College Curriculum Chair: Carl H. Rineke

College Dean: Valeria J. Franken

UGPC Chair: 

Graduate College Dean: 

UFS President: 

Provost:

Date:


3. Consent from affected departments (attach if necessary)

Email this form and syllabus to UGPC@fau.edu one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

FAUnewcourseGrad—Revised November 2014
Dear Colleagues,

Attached is the new course proposal and course syllabus for SPA 6483 Genetics of Communication Disorders. There is a course description included below. We are planning to offer this course as an elective for our graduate students. CSD graduate students are required to take two, three-credit electives for the non-thesis option. The course will be taught by Dr. Ali Danesh.

Please review the course and let me know if you see any direct conflicts with courses offered in your departments. Please let me know if you are able to support this course offering by the CSD Department, at your earliest convenience. Thank you, in advance, for your time reviewing this course.

COURSE TITLE:
SPA 6483 Genetics of Communication Disorders

COURSE DESCRIPTION:

Students will study the basic concepts of genetics and its relation to communication sciences and disorders including but not limited to the disorders of speech and hearing. They will also learn about the hereditary syndromes and birth defects associated with speech, language, cognition and hearing impairments. Additionally, they will gain knowledge about genetic counseling in speech pathology and audiology and interpretation of genetic data.

With best regards,
Deena Louise Wener

Deena Louise Wener, Ph.D., CCC-SLP
Associate Professor & Chair
Department of Communication Sciences and Disorders
College of Education
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431-0991

Phone: 561-297-2259
FAX: 561-297-2268
E-mail: wener@fau.edu

/ 
From: Michael Brady
Sent: Monday, February 16, 2015 4:36 PM
To: Deena Wener
Subject: RE: Genetics course-SPA 6483 Genetics of Communication Disorders

I reviewed the proposed course SPA 6498 Genetics of Communication Disorders. The course does not conflict with or overlap the courses or programs in the ESE Department. Good luck.

Michael P. Brady, PhD
Professor & Chair
Department of Exceptional Student Education
Florida Atlantic University
From: Emery Hyslop-Margison
Sent: Tuesday, February 17, 2015 7:48 AM
To: Deena Wener
Subject: RE: Genetics course-SPA 6483 Genetics of Communication Disorders

No conflicts with CCEI

Dr. Emery J. Hyslop-Margison
Professor and Chair
Department of Curriculum, Culture and Educational Inquiry
College of Education
Florida Atlantic University
Boca Raton, FL 33431

Email: ehyslopmarginson@fau.edu
Phone: 561-297-3965
Fax: 561-297-2925

-----Original Message-----
From: Barbara Ridener
Sent: Monday, February 16, 2015 5:03 PM
To: Deena Wener
Subject: Re: Genetics course-SPA 6483 Genetics of Communication Disorders

No conflict with us!

Barbara

From: Paul Peluso
Sent: Tuesday, February 17, 2015 7:07 AM
To: Deena Wener
Cc: Marc Kantorow; Barbara Ridener; Michael Brady; Emery Hyslop-Margison; Robert Shockley; Ali Asghar Danesh
Subject: Re: Genetics course-SPA 6483 Genetics of Communication Disorders

I see no conflicts with Counselor Education.

Sent from my iPhone

From: Marc Kantorow
Sent: Tuesday, February 17, 2015 9:29 AM
To: Paul Peluso; Deena Wener
Cc: Barbara Ridener; Michael Brady; Emery Hyslop-Margison; Robert Shockley; Ali Asghar Danesh; John Newcomer
Subject: Re: Genetics course-SPA 6483 Genetics of Communication Disorders

Dear All,

There is no conflict of this course with the courses taught in the College of Medicine MS Biomedical science program.
All the best,

Marc

Marc Kantorow, Ph.D.
Professor and Director of Graduate Programs
Schmidt College of Medicine
777 Glades Rd. BC71 RM202
Florida Atlantic University
Boca Raton, FL 33431
561-297-2910 (office)
561-297-3806 (lab)
mkantoro@fau.edu

Ali A. Danesh, PhD, FAAA, Board Certified, American Board of Audiology
Professor, Director of Audiology Clinic,
Department of Communication Sciences and Disorders
Professor of Clinical Biomedical Science (Secondary), College of Medicine
Florida Atlantic University
777 Glades Road
P.O. Box 3091
Boca Raton, Florida 33431-0991

+1.561.297.2071 (office)
+1.561.297.2258 (Clinic)
+1.561.297.2268 (Fax)
danesh@fau.edu  http://www.coe.fau.edu/faculty/danesh/

Please consider the environment before printing this email.
Deena Louise Wener, Ph.D., CCC-SLP  
Associate Professor & Chair  
Department of Communication Sciences and Disorders  
College of Education  
Florida Atlantic University  
777 Glades Road  
Boca Raton, FL 33431-0991  

Phone: 561-297-2259  
FAX: 561-297-2268  
E-mail: wener@fau.edu

**********************************************************

"I have heard there are troubles of more than one kind.  
Some come from ahead and some come from behind.  
But I've bought a big bat. I'm all ready you see.  
Now my troubles are going to have troubles with me!"  
~Dr. Seuss

From: Michael Whitehurst  
Sent: Tuesday, February 17, 2015 11:19 AM  
To: Deena Wener  
Subject: RE: Genetics course-SPA 6483 Genetics of Communication Disorders

Deena,

No problem. ESHP has no conflict with this course. I could see some of our graduate students considering this course as an elective in their POS.

Mike.

From: Deena Wener  
Sent: Tuesday, February 17, 2015 11:09 AM  
To: Michael Whitehurst  
Subject: FW: Genetics course-SPA 6483 Genetics of Communication Disorders

My apologies Mike. You would left off the original post. I need to update my Chairs mailing list.

Deena Louise Wener, Ph.D., CCC-SLP  
Associate Professor & Chair  
Department of Communication Sciences & Disorders  
College of Education  
Florida Atlantic University  
777 Glades Road  
Boca Raton, Florida 33431
COURSE DESCRIPTION:

Students will study the basic concepts of genetics and its relation to communication sciences and disorders including but not limited to the disorders of speech and hearing. They will also learn about the hereditary syndromes and birth defects associated with speech, language, cognition and hearing impairments. Additionally, they will gain knowledge about genetic counseling in speech pathology and audiology and interpretation of genetic data.

TEXTBOOK:


Further Suggested Texts for additional readings:

LEARNING OUTCOMES/ COURSE OBJECTIVES. Students will be able to:

1. Define human genetics terminology and basic concepts of genetics
2. Design and interpret pedigree construction
3. Define chromosomal basis of inheritance and Mendelian Inheritance
4. Distinguish between cell division types – mitosis and meiosis
5. Interpret DNA and RNA transcription
6. Define chromosomal structure and describe human karyotype
7. Define chromosomal deflections and structural alterations and their inheritance
8. Describe transmission genetics and different categories of inheritance (dominant, recessive, X-linked, Y-linked, mitochondrial, etc.)
9. Interpret and describe ethical issues in use of genetic information
10. Recognize a variety of genetic disorders associated with speech, language, cognition impairments. Genetic basis of pathologies such as craniofacial abnormalities, cleft lip and palate, autism, stuttering, intellectual disability, etc. will be discussed.
11. Recognize syndromic and non-syndromic hearing losses
12. Distinguish different varieties of nontraditional inheritance (e.g., mitochondrial, uniparental, etc.)
13. Case studies of populations with genetic disorders that affect communication process

INTERNET RESOURCES:

http://shla.nchpeg.org/ (Genetics in The practice of Speech Pathology and Audiology)
http://www.asha.org/academic/questions/Genetics-Education.htm (What does the speech-language pathologist or audiologist need to know about genetics when conducting assessments?)
http://www.genome.gov/
http://www.audiology.org/news/interviews/Pages/20090917a.aspx (Danesh, Genetics Counseling)
http://audgendb.chop.edu/ (Audiological and Genetic Database)
http://learn.genetics.utah.edu/units/disorders/karyotype/
http://www.genetests.org/ (genetic counseling, articles, case studies, etc.)
http://www.ornl.gov/sci/techresources/Human_Genome/home.shtml (human genome project)
http://www.vcfsf.org/ (Shprintzen Syndrome, Velo-Cardio-Facial Syndrome) (VCFS)
http://www.upstate.edu/uh/ent/vcf/ (VCFS)
http://www.chw.org/display/PPF/DocID/21810/router.asp (Craniosynostosis)
http://webhost.ua.ac.be/hhh/ (Hereditary Hearing Loss homepage)
http://davinci.crg.es/deafness/ (Connexin Deafness Homepage)
http://www.geneclinics.org/
http://www.yourgenesyourhealth.org/
http://www.dnafund.org/dnaftb/
http://www.ncbi.nlm.nih.gov/ (GeneClinics)
http://webh01.uu.ac.be/hhh/ (Hereditary Hearing Loss Homepage)
http://www.audiology.org/news/interviews/Pages/20090917a.aspx (my interview with American Academy of Audiology)

Interesting video clips:

http://www.youtube.com/watch?v=mQC1pxDBzSs
http://www.youtube.com/watch?v=yJSzmZ3dsntU
http://www.youtube.com/watch?v=nI8pSlozmA0
http://www.youtube.com/watch?v=NJXoBkPEA0
http://www.youtube.com/watch?v=uh7c8YbYGgQ
http://www.youtube.com/watch?v=TVhxzF5Ks0

Additional websites:

http://www.sonic.net/~nbs/projects/bio115l/form.html (the gene machine, fun activity)
http://learn.genetics.utah.edu/units/basics/tour/inheritance.swf (inheritance animations)
http://programs.northlandcollege.edu/biology/Biology1111/Karyotypes/karyotype_analysis%20index.htm (karyotype activity)
http://www.pbs.org/wgbh/aso/triyt/dna/shockwave.html (interactive learning tool, needs shockwave)
http://www.johnkvyrk.com/index.html (interesting biological animations)
http://www.northland.cc.mn.us/biology/AP2Online/Fall2002/AP2PowerPoint/AP2Geneticslecture_files/frame.htm#slide0220.htm (useful teaching slides)
http://www.koshlandssciencemuseum.org/exhibitdna/crim05activity.jsp (DNA Identification System)
http://www.nspg.org/ (genetic counselors)
http://www.uic.edu/classes/bms/bms655/lesson3.html (pedigrees)
http://www.ornl.gov/
www.yourgenesyourhealth.org (DNA interactive)

CONTENT OUTLINE: (check assignments, presentations, syllabus etc., at FAU Blackboard
http://bb.fau.edu/webapps/login/?action=relogin

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<th>Topic/Reading</th>
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**SESSION I**
History of Genetics
What is Genetics?
Basic Cell Biology and biological aspects of genetical sciences
READING: Chapters 1-2
CLASSROOM ACTIVITY:
1. Please surf the websites that are shown in page 2 of the syllabus.
2. Please watch the following video clips:
   - http://www.youtube.com/watch?v=ubq4eu_TDFc (basic genetics)
   - http://www.youtube.com/watch?v=cTqH5X6oDk&playnext=1&list=PLC038F66BEFE2738A&feature=results_main (chromosomal mutations)
   - http://www.youtube.com/watch?v=eBki1L_yKXYhe (genetics of presbycusis)
   - http://www.youtube.com/watch?v=imL1Zmi3mWk (gene therapy)

**Video Lecture will be available.**

**SESSION II**
Introduction to Human Genetics and Genetics of Communication Disorders, Genetics professionals
READING: Chapters 1-2

**Video Lecture will be available.**

**SESSION III**
Chromosomal structure and karyotypes
Chromosomal Abnormalities
Modes of Inheritance
Non-Traditional Modes of Inheritance
READING: Chapter 3

**Video Lecture will be available.**

**SESSION IV**
Biochemical Basis of Genetics
DNA structure and Function
DNA Transcription

**Video Lecture will be available.**

**SESSION V**
Classification of Genetic defects
READING: Chapters 4-5
Pedigree Construction

**ASSIGNMENT 1 (Classroom Activity: Mapping and Constructing Pedigrees)**

**SESSION VI**
**Quiz 1.** Bioethical Considerations in Genetics
Genetic Testing,
READING: Chapters 6-7

**SESSION VII**
Genetic Counseling for Speech and Hearing Disorders
READING: Chapter 8
SESSION VIII
Syndromic Genetic Hearing Loss
Molecular testing for selected causes of deafness
Non-syndromic genetic Hearing Loss & Genetic Hearing Loss with No Associated Abnormalities
and their Audiologic Manifestations
Audiologic Manifestations of abnormalities associated with external ear, eye, renal,
musculoskeletal disorders, and cardiac defects.
READING: Chapters 9

SESSION IX
Craniofacial Genetics,
Velo-Cardio-Facial Syndrome
Cleft Lip, Cleft palate, Associated Syndromes
READING: Chapters 10-11

SESSION X
Genetics of Autism and related disorders/disabilities

SESSION XI
Mapping and Cloning
Gene therapy for Hearing Loss and Other Disorders
Assortative Mating

SESSION XII
Quiz 2. Review.

SESSION XIII
Student Article Presentations: X4 (mandatory attendance, one point reduction from the final
grade for missing each presentation)

SESSION XIV 11/20/14
Student Article Presentations: X3 (mandatory attendance, one point reduction from the final
grade for missing each presentation) ASHA

SESSION XV
No Class (Thanksgiving)

SESSION XVI
Final Review/Group Presentation

ASSIGNMENT II (Group Activity (X3) Case History and Case Presentation) (mandatory
attendance, one point reduction from the final grade for missing each presentation)


http://infanhearing.org/ehdi-ebook/ (FREE E-BOOK ABOUT HEARING LOSS IN CHILDREN)
STUDENTS IN THIS COURSE ARE REQUIRED BY THE COLLEGE OF EDUCATION TO HAVE AN ACTIVE LIVETEXT ACCOUNT TO TRACK MASTERY OF PROGRAMS SKILLS, COMPETENCIES AND CRITICAL ASSIGNMENTS AND TO MEET PROGRAM AND COLLEGE ACCREDITATION REQUIREMENTS. STUDENTS MUST HAVE AN ACCOUNT WITHIN: THE FIRST FOUR (4) WEEKS OF THE FALL OR SPRING SEMESTER, WITHIN THE FIRST THREE (3) WEEKS OF SUMMER SESSION, OR AFTER THE FIRST CLASS OF A FAST TRACK COURSE. STUDENTS WHO DO NOT HAVE AN ACTIVE LIVETEXT ACCOUNT MAY HAVE AN ACADEMIC HOLD PLACED ON THEIR RECORD. INFORMATION REGARDING ACCOUNT ACTIVATION IS PROVIDED ON THE COLLEGE OF EDUCATION WEBSITE, HTTP://COE.FAU.EDU/LIVETEXT.

GRADING SCALE:

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<tr>
<th>Grade</th>
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<td>63-66.99</td>
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<td>F</td>
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ATTENDANCE POLICY: According to University policies “Students are expected to attend all of their scheduled University Classes and to satisfy all academic objectives as outlined by the instructor.” Attendance includes meaningful, active involvement in all class sessions, class discussions, and class activities as well as professional, ethical, conduct in class. Reasonable accommodations are made for religious observances.

STUDENTS WITH DISABILITIES: In Compliance with The Americans with Disabilities Act (A.D.A.), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca – SU 133 (561-297-3880), in Davie – LA203 (954-236-1222), or in Jupiter – SR 117 (561-799-8585) and follow all OSD procedures. The purpose of this office “is to provide reasonable accommodations to students with disabilities.” Students who require assistance should notify the professor immediately by submitting a letter from the Disabilities Office to your instructor requesting your need of specific assistance. Without such letter, the instructor is not obligated to make any accommodations for students.

CODE OF ACADEMIC INTEGRITY: Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive to the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see http://www.fau.edu/regulations/chapter4/4.001_Cod_of_Academic_Integrity.pdf.

CELLPHONE POLICY: Off or silent mode!

ELECTRONIC ETIQUETTE: We are living in an electronic era. Use of technology in my classes is acceptable as long as there is no abuse. You can use your laptop in my class for note taking or surfing the web for course materials ONLY.

TEXT MESSAGING AND E-MAIL CHECK: Not acceptable!!! However, multi tasking is possible for the young minds like yours. If you choose to text during the class the professor has the right to ask questions from you about the lecture. If you fail to provide him with correct/appropriate answer you will lose the privilege to use texting for the rest of the semester.

POLICY REGARDING PLAGIARISM AND CHEATING (partially adopted from Deena L. Wener, PhD):

There is a zero-tolerance policy for students found plagiarizing or cheating. Students who are found cheating or plagiarizing will receive an immediate “F” in the course.

Plagiarism, as defined by Webster’s Unabridged Dictionary, is:
“The unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one’s own original work.”

Plagiarism encompasses both the presentation of a prominent or published author’s work as your own and the presentation of another student’s work as your own. This also includes presenting another’s thoughts or opinions as your own in oral presentation.

Cheating, with regard to exams, as defined by Webster’s Unabridged Dictionary, is:
“The taking of an examination or test in a dishonest way, as by improper access to answers.”

Examples would include, but are not limited to, copying answers from another student’s paper or bringing written answers into an exam without authorization.

ASSIGNMENTS:

There are two quizzes which will be 50% of your final grade (25% each). Students will have FOUR assignments/Activities and they also will be graded based on their class participation and class interactions.

1. Assignment I (5%) Classroom activity I. Students (groups) will develop a pedigree of a family with an inherited communication disorder such as hearing loss, autism, stuttering or other communicative disorders. Cases will be provided by the instructor.

2. Assignment II (10%) Classroom Activity II. Students (groups) will present a case of an individual or family with hereditary communication disorder or hearing loss and their speech pathology and audiology manifestations (see the dates above).

3. Journal Article Presentation/Assignment (20%). Each student will present a journal article in a PPT format for 15-20 minutes (see the presentation dates above). Please distribute a copy of your handout to the class or send an electronic copy to BB.

4. Class participation and Interaction (10%) /Jeopardy activities (5%)

REFERENCES:


3. Simon E. Fisher I and Constance Scharff, FOXP2 as a molecular window into speech and language. Trends in Genetics Vol.25 No.4


44. Wolf B, Heard GS, Jefferson LG, Proud VK, Nance WE, Weissbecker KA: Clinical Findings in four children with biotinidase deficiency detected through a statewide neonatal screening program. NEJM 313:16-9, 1985
<table>
<thead>
<tr>
<th>Learner Outcomes</th>
<th>Assessment Method</th>
<th>III</th>
<th>IV</th>
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<tbody>
<tr>
<td>1. The student will understand fundamental concepts of general genetics</td>
<td>exams, oral presentation, written assignments, in-class discussion</td>
<td>X</td>
<td>X</td>
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<td>2. The student will demonstrate the ability in interpretation of genetic data,</td>
<td>exams, oral presentation, written assignments, in-class discussion</td>
<td>X</td>
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<td>pedigrees. The student will be able to identify major modes of inheritance.</td>
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<td>3. The student will be able to identify common types of syndromes that can</td>
<td>exams, oral presentation written assignments, in-class discussion</td>
<td>X</td>
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<td>cause communicative disorders. Student will be able to differentiate between</td>
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<td>syndromic and non-syndromic hearing losses.</td>
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<td>4. The student will be able to understand the process of genetic counseling for</td>
<td>exams, oral presentation, written assignments, in-class discussion</td>
<td>X</td>
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<td>speech and hearing disorders.</td>
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<td>5. The student will exhibit knowledge of different types genetic testing and its</td>
<td>exams, written assignments, in-class discussion</td>
<td>X</td>
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<td>importance in early identification.</td>
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AA. Danesh, Ph.D., Genetics Course outlines 8
<table>
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<tr>
<th>Learner Outcomes</th>
<th>Assessment Method</th>
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<th>B¹</th>
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<td>6. The student will be able to identify different types of syndromic craniofacial abnormalities and cognitive genetic abnormalities such as autism related disabilities.</td>
<td>exams, oral presentation, written assignments, in-class discussion</td>
<td>X</td>
<td>X</td>
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<td>7. The student will be able to identify methods and procedures in the identification of pediatric populations with genetic abnormalities.</td>
<td>exams, oral presentation, written assignments, in-class discussion</td>
<td>X</td>
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<td>8. The student will demonstrate knowledge of generating a pedigree for a genetic disorder and presenting a case with a genetic inheritance.</td>
<td>exams, oral presentation, written assignments, in-class discussion</td>
<td>X</td>
<td>X</td>
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<td>9. Each student is required to read a research article and present a power point presentation to the class.</td>
<td>Grading rubric content(75%), spelling(15%) references (10%)</td>
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<td>10. Each student is required to take two exams/quizzes on genetics of speech, cognition, and hearing disorders.</td>
<td>Grading rubric Exams (50%) two exams/quizzes (25% each)</td>
<td>X</td>
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**CSD Critical Assignment Policy**

If a student fails to either “Meet” or “Exceed” expectations on all critical assignments assigned to this course, or remediate within the course schedule, it is the policy of the Department of Communication Sciences and Disorders that the student will earn a grade of “F” for the course and must repeat the course.