

CD 661 VOICE AND DISORDERS OF VOICE

Syllabus and Course Schedule

Course Description: This is a graduate level course for students in Communication Disorders and Sciences. This course includes the study of theoretical, diagnostic and treatment issues in functional/ organic/ neurogenic/and psychogenic voice disorders. In addition, multicultural implications for assessment and treatment are presented. Regular written assignments are required, as well as proficiency with instrumentation for options within assessment and treatment.

Required Texts:

Sapienza, Christine and Hoffman-Ruddy, Bari (2018). Voice Disorders. Plural Publishing. 3rd Ed.

Stemple, Joseph C., and Thomas-Fry, Lisa (2019). Voice Therapy: Clinical Case Studies. 3rd Ed. Plural Publishing.

Recommended Texts:

Aronson, Arnold E. and Bless Diane M. (2009). Clinical Voice Disorders – 4th Edition
NY: Thieme Medical Publishers

Colton, R., Casper, J. and Leonard R. (2011). Understanding Voice Problems: A Physiological Perspective for Diagnosis and Treatment. Fourth Edition. Lippincott Williams & Wilkins

Ward, Elizabeth and Van as Brook, Corina (2006). Head and Neck Cancer: Therapy and rehabilitative Outcomes. San Diego:Plural Publishers

Additional readings (research articles, ASHA position statements etc.) will be posted on the Moodle course website; all posted material is required reading.

Course Objective: This seminar provides information on voice disorders across the lifespan. The course is designed to provide the student with:

- 1) Knowledge of laryngeal anatomy and physiology as well as an understanding of the mechanisms of vocal fold vibration, frequency, intensity, and register control;
- 2) An understanding of the classification, etiologies, and anatomic and physiological bases of vocal pathologies;
- 3) Voice assessment techniques, including acoustic, aerodynamic, and physiological techniques;
- 4) Experience in analysis of clinical problems, formulation of diagnoses, prognoses, and appropriate treatment approaches;
- 5) Experience in the critical analysis of the research literature.
- 6) Knowledge of the impact of culture and gender identity on voice assessment and treatment

Knowledge and Skills Analysis (KASA) for Department Majors seeking Certification of Clinical Competence.

For majors in speech-language pathology, this course contributes to:

Standard III-B. Basic Communication:

- Basic Communication Processes (Biological, Neurological, Acoustic, Psychological, Developmental Lifespan, Cultural)

Met through SLO 1; Quiz 1

Standard III-C. Knowledge:

- Voice and Resonance (Etiologies, Characteristics)
- Swallowing (Etiologies, Characteristics)
- Communication Modalities (Etiologies, Characteristics)

Met through SLO 2; portions of Exam 1 and Quiz 2

Standard III-D. Prevention, Assessment and Treatment Methodology:

- Voice and Resonance (Prevention, Assessment, Intervention)
- Communication Modalities (Assessment, Intervention)

Met through SLOs 3, 4, 5, and 7; Assessment: Quiz 3 and portions of Exam 1; Treatment: assignments 1 and 2, quiz43 and portions of exam 2

Standard III-E. Knowledge

- Standards for Ethical Conduct

Met through portions of exams1 and 2

Standard III-F. Knowledge

- Research and integration of research principles into evidence based practice.

Met through SLO 5; Exam 2 and assignment 2

Standard III-G. Knowledge

- Contemporary professional issues

Met through portions of Exam 2

Standard IV-B. Oral and written and other forms of communication

Met through Assignments 1 and 2 (written) and 3 (oral)

Student Learning Outcomes Knowledge and Skills Analysis (KASA) for Department Majors seeking Certification of Clinical Competence.

By the conclusion of this course, students will:

1. be able to define the anatomy, innervation, and physiology of the systems involved in normal and disordered voice production
2. be able to define vocal pathologies related to functional, medical, neurologic, and psychogenic etiologies.
3. be able to demonstrate competencies for evaluation for phonatory, respiratory, and resonatory function – including perceptual, acoustic, aerodynamic, and stroboscopic assessment.
4. be able to demonstrate competencies for interpretation of assessment data with respect to clinical

diagnoses and the design of remediation for voice disorders.

5. ... be able to define intervention options, including pharmacological, surgical, and clinical behavioral treatment.
6. ... be able to demonstrate competencies for the principles of perceptual motor learning and their application to therapy design and implementation.
7. ... be able to describe the anatomic and physiological changes resulting from laryngectomy and head and neck cancers, surgical treatment options, and techniques for post-laryngectomy verbal communication
- 8....be able to identify cultural impact on voice therapy and training for multicultural populations and transgender individuals

Planned Assignments:

1. Laryngeal Anatomy and Mechanics Summary 20 points (KASA III-B) – Summarize the origins, insertions, and functions of all the intrinsic and extrinsic laryngeal muscles. Summarize the theories of phonation and frequency control. The laryngeal muscle summary may be done in table form. Summary of the theories of phonation and frequency control should be written in paragraph form using information from course lecture material and additional course readings. **CTCSLP 4e**

2. Clinical Instrumentation Summary 20 points (KASA III-D) – Based on information from your text, class lectures, readings from the literature and appropriate websites, write concise and informative descriptions of the following instrumental assessment techniques. Include WHAT is measured, how the measurement is carried out clinically, and how the numeric or waveform information are interpreted. Include relevant illustrations or graphics to exemplify your descriptions, labeling waveforms or other graphics to indicate important features.

Physiologic

- a) Electroglottography
- b) Videostroboscopy

Aerodynamic

- b) Subglottal pressure estimation
- c) Mean flow
Aerodynamic – derived from inverse filtered flow
- d) AC flow
- e) DC offset or minimum flow
- f) Maximum flow declination rate

Acoustic

- g) Jitter
- h) Shimmer
- i) Harmonics to noise ratio **CTCSLP 3a,4b; CTCSLP 3a,4b**

3. Perceptual and Acoustic Voice Assessment and Vocal Hygiene Plan 50 points (KASA III-D) - This assignment consists of a pre-treatment and post-treatment perceptually based voice evaluation and development of a vocal hygiene program for a ‘voice’ partner who you will choose from class, or you may select a family member/friend who is willing to faithfully participate in a vocal hygiene program.

Components of a perceptual and acoustic voice evaluation will be discussed in class. The perceptual component will be measured pre- and post-treatment, while the acoustic assessment will be pre-treatment only. Based on the results of your assessment, you will develop a vocal hygiene program for your partner. You may use

suggestions from class lectures, your text, and other clinical sources, Your ‘patient’ will adhere as best they can for 5-6 weeks. Reduction of vocal habits or vegetative habits (throat clearing/coughing) that increase the risk of vocal fold injury and increase of hydration are good basic goals – BUT you will specifically choose what will work best for your partner and their specific needs and/or vocal complaints, if any. Document your patient’s weekly compliance and progress thoughtfully and carefully. Formal written reports are not necessary. A well organized summary of your patient’s voice history and current complaint, prescribed treatment plan, a summary of the pre- and post-treatment measurements, and your evaluative comments will be adequate.

4. Case Study Assignment and Presentation - 40 points (KASA III-D and III-F; IV-B) You will be given a ‘voice patient’ and provided with the patient’s diagnosis and assessment data, including acoustic and videostroboscopic information, relevant medical and vocal history, vocation, and vocal hygiene. Based on the information provided in the assessment summary, you will develop a treatment plan, recommend additional assessment and/or referrals if necessary, and state prognosis. You must provide rationales for your choices, including any recommendations for additional assessment and/or referrals, but especially for your treatment choices. Treatment choice will require physiological rationales. You will write both short term and long term goals for your patient. You will be provided with a sample report form from which you will structure your paper.

Presentation (IV-B)– Presentations will consist of a summary of your patient’s relevant diagnostic and assessment information, a summary of your recommendations/referrals, and presentation of the treatment plan with therapy and vocal hygiene goals. You must choose one **voice therapy technique** (not breathing or body relaxation exercises) to demonstrate to the class. If you choose laryngeal massage or supraglottic relaxations exercises, you must also demonstrate a voice technique. **CTCSLP 5e**

5. Research Paper – 40 points (KASA III-C; III-F; IV-B) Select one basis for a voice disorder (e.g. spasmodic dysphonia, myasthenia gravis, peripheral vocal fold paralysis, vocal tremor, granuloma, GERD, vocal nodules, keratosis/leukoplakia, papillomas, muscle tension dysphonia, Parkinson’s disease, laryngeal carcinoma, paradoxical vocal fold dysfunction, etc.) and:

- a. describe : incidence, typical signs and symptoms
- b. discuss causes: etiology and pathogenesis
- c. discuss assessment: **if** a differential dx is necessary, what would be an appropriate evaluation protocol and why; what diagnostic/measurement profile might be expected ?
- d. discuss the acoustic, aerodynamic, and videostroboscopic characteristics of the disorder
- e. discuss behavioral (therapy techniques) and medical/surgical treatment options, and treatment efficacy (using data if available). **CTCPD 3a**

The paper should be approximately 10-13 double-spaced type written pages, excluding references and figures. Refer to research literature, class lectures, readings, and any other materials that you find on your own, e.g. via the Internet. Information from refereed journals and data-based studies need to be included. ***Minimum of 12 peer reviewed journal articles for references. Citations within the text and reference page (a.k.a. bibliography) MUST be in standard APA (American Psychological Association) format. Do NOT use Wikipedia as a primary source !*

6. Videostroboscopy Exam Ratings Assignment – credit/no credit. You will rate 5 videostroboscopic exams (approximately 3-5 mins. in length each) and score the exam on the one page stroboscopy rating sheet. The purpose of this assignment is to give you experience and practice in the evaluation of videostroboscopic exams.

EXAMINATIONS:

There will be four quizzes and two exams (midterm and a final). Quiz format will be true and false, multiple choice and fill in the blank questions. Exam format will be short answer, multiple choice, true and false and essay questions. Most short answer questions will require factual knowledge: integration or 'think' type questions will be in essay format.

Midterm examination - 90 points

Final examination - 90 points

Three Quizzes - 20 points each (60 points total)

Assignment 1 – 20 points

Assignment 2 – 20 points

Vocal Hygiene Assignment - 40 points

Case Study Assignment – 40 points

Acoustic Assessment – 20

Research Paper – 40 points

Total points = 420

Grading policy for the course:

A 90 – 100

B 80 – 89

C 70 – 79

D 60 – 69

F below 59

Requests for an incomplete (I) must conform to University policies. Among other requirements, an 'I' is possible only for instances in which a student has completed most of the requirements for the course and is demonstrating passing work in the course.

Course Credit, Standard of Performance and Remediation

If the final course grade is below a "C" (grade point of 2.00), there is no credit recognized by the University toward completion of a graduate degree requirement. The California Board of Speech- Language Pathology, Audiology and Hearing Aid Dispensers, the California Commission on Teacher Credentialing, and the Council on Clinical Competence of the American Speech-Language Hearing Association will not recognize a course for credit in which the final grade is below a "C" (grade point of 2.00).

In the event that the final grade is below a "C", a graduate student may petition for permission to repeat the course. University policy allows a graduate student to repeat no more than two courses, with permission of the department and of the associate vice president for Graduate Studies.

University courses provide the opportunity for students to demonstrate competency in various knowledge and skill areas (KASA) that are requirements for the Certificate of Clinical Competence in Speech-Language Pathology of the American Speech-Language Association. Courses may involve one or more areas of the KASA, as described in course syllabi. In order to receive recognition of competency for a given KASA component, a student must demonstrate performance at a grade equivalency of a "C" for the assignment or portion of a quiz or exam that

meets that KASA component. Demonstration of competency on individual course objectives is not necessarily reflected by the final course grade alone, as it is often possible to pass a course without fulfilling every objective or KASA competency at the equivalency of a grade of “C”.

Remediation for KASA Competencies:

Assignments and portions of exams that correspond to CD 661 KASA components must be completed with a minimum grade of C. Grades of C- or lower on these assignments or exam components will require *remediation* in order for the student to obtain the KASA competency in question. Remediation is NOT for a change in grade; remediation is for competency and completion of the KASA component so that the student will receive credit for the competency on their KASA form. Please see the KASA analysis on page 2 of the syllabus to see which KASA components and SLOs are met by the six assignments and exams/quizzes. Also, pages 3-4 detail each of the six assignments and show which KASA component/s each assignment meets. The method of remediation will be determined by the instructor and will be dependent upon the KASA competency in question and the method of assessment.

Cell Phones and Lap Tops

Cell phones must be OFF during lecture and in class workshops. Cell phones must be off and put away during all quizzes and exams.

Academic Honesty

Every member of the academic community at California State University Northridge is expected behave with honesty and trustworthiness. In this course and all others, behaviors of cheating, plagiarism, misrepresentation, violation of copyright law or other forms of dishonesty are not tolerated. Student academic dishonesty will result in penalties ranging from a failing grade on an assignment or examination, to a failing grade in the course, to referral to the Office of Student Affairs for a determination or suspension or dismissal from the University, as described in the University catalog.

Make-up examinations

Make-up examinations are permitted only for disabling or infectious disease or similar health difficulties. A request for an excused absence from a midterm or the final exam due to illness will require written verification by a physician. Employment conflicts, personal travel, or other personal business are not excusable absences from tests. If the absence cannot be avoided, the student MUST see the instructor at the start of the semester to make arrangements for missed exams. In the event of an excused absence, a convenient time for a make-up exam will be decided by the instructor and the student.

Special Accommodations

Requests for accommodations in test taking or other special needs must be made to the instructor **no later than the second week of the course.**

CD 661 COURSE SCHEDULE

Week 1 Laryngeal and Respiratory Anatomy & Physiology
Muscle stimulation videos

Sapienza Ch 2 pp. 31-74
CTCSLP 1a

Week 2 Phonation: Mechanisms of Vibration &
Pitch, Intensity and Register Control

Sapienza Ch 2 pp. 74-82
Titze article on Moodle

CTCSLP 1b

Week 3 **QUIZ – Anatomy, physiology & phonation**
Videostroboscopy
Voice Disorders - Phonotrauma
DUE: Assignment #1 - Muscle & Laryngeal
Mechanics Summary

CTCSLP 1a, 1b
Sapienza Ch 4 pp. 118-127
Sapienza Ch 5 p. 197-221, 230-231
p. 245-246
CTCSLP 4e

Week 4 Voice Disorders - Functional and
Psychogenic, Organic

Sapienza Ch 5 pp. 248-254
Moodle articles
Sapienza Ch 5 p. 222-229, 234-244
CTCSLP 3a

Week 5 Voice Disorders - Neurogenic
Vocal Hygiene

Sapienza Ch.6
Sapienza Ch 3
CTCSLP 5a

Voice Assessment:
Voice Hx, Medical Hx, Perceptual Eval.,
Assessing laryngeal muscle tension,
neck and jaw tension, and breath support;
Voice and Reflux Surveys; Audio samples

Sapienza Ch 4 pp. 113-117, 171-
Bless and Aronson handout
CTCPD 6b
CTCSLP 3b, 4b

Week 6 **QUIZ 2- Voice Disorders & Videostroboscopy**
Instrumental Assessment- Acoustic,
Aerodynamic, Electroglottography,
Electromyography
Noninstrumental Testing

CTCSLP 3a,4b
Sapienza Ch 4 pp.130-169
Moodle articles

DUE: Journal Article Reference list for Research Paper w/ min 12 JOURNAL articles
DUE: First 2 Videostroboscopy Cases

Week 7 Voice Lab demonstration and student participation
DUE: Assignment #2- Clinical Instrumentation
Therapy Categories and Components

Sapienza Ch 7 p. 315-338, 347-350
Stemple Ch. 1 pp.1-10

Week 8 **EXAM 1**
Therapy Categories and Components Cont'd

CTCSLP 1c
Stemple Ch. 3 pp.47-93

Week 9 Therapy for Hyperfunctional Disorders

Colton and Casper handout

(Phonotrauma & Functional)
Therapy for Hypofunctional Disorders
Breathing Exs., Muscle Relaxation Exs.

Stemple Ch. 5 p. 207-209, 213-219
p. 238-243

CTCSLP 5b

Week 10 Voice Therapy Workshop
PFVD; SD; Irritable Larynx/Chronic Cough
Motor Learning and Voice Therapy

Stemple Ch. 4 pp. 111-153
Stemple Ch. 6 p. 247-261 , 265-270
p. 278-288

Week 11 QUIZ 3 Voice Therapy
Voice Disorders in Children and the Elderly
Computer Therapy (Speech Viewer and Video Voice)
Articles on Moodle
Pharmacological Treatments & Surgeries
DUE: Assignment #3 – Perceptual-Acoustic Evaluation/
Vocal Hygiene Project

CTCSLP 5b

Stemple Ch. 3 pp. 25-41,
Ch. 5 pp. 210-213, 220-226

CTCPD 6a

Sapienza Ch.7 pp.339-341

CTCSLP 4a, CTCPD 6a, 6b

Week 12 Case study discussions
Cancer Characteristics, Treatment Options,
Outcomes, Speech Options, Role of the SL; TEP

Stemple Ch. 7 pp. 309-313
Sapienza Ch 9

Week 13 Professional Voice
Final Videostroboscopy Cases Due – Class Discussion

Sapienza Ch 10 pp.443 - 453

CTCSLP 3a,4e

Week 14 Transgender Communication Training
Case Study Presentations

CTCPD 3a, CTCPD 3a;
CTCSLP 3b, 5d

Week 15 Case Study Presentations

Week 16 **FINAL EXAM 12:45 – 2:45 p.m.**
DUE : Assignment #4 - Case Study
DUE : Assignment #5 - Research Paper

CTCSLP 3b, 5a, 5b

CTCSLP 5e

CTCPD 3a

CD 661 VOICE AND VOICE DISORDERS
Linking Document

Introduced (I)

Practiced (P)

Assessed (A)

CTCPD

Standard 3a	page 8	3a	page 8	3a	page 4
Standard 6a	page 8	6a	page 8		
Standard 6b	page 7	6b	page 8		

CTCSLP

Standard 1a	page 6	1a	page 7
Standard 1b	page 7	1b	page 7
Standard 1c	page 8		
Standard 3a	page 3	3a	page 7
Standard 3b	page 8		
Standard 4a	page 8		
Standard 4b	page 3	4b	page 7
Standard 4e	page 3	4e	page 8
Standard 5a	page 7	5a	page 8
Standard 5b	page 8	5b	page 8
Standard 5d	page 8		
Standard 5e	page 4		