

COMD 4020
Speech Science
3 Semester Hours + lab

College of Education
Valdosta State University
Department of Special Education and Communication Disorders
Conceptual Framework: Guiding Principles
(adapted from the Georgia Systemic Teacher Education Program Accomplished Teacher Framework)

Dispositions Principle: Productive dispositions positively affect learners, professional growth, and the learning environment.

Equity Principle: All learners deserve high expectations and support.

Process Principle: Learning is a life-long process of development and growth.

Ownership Principle: Professionals are committed to, and assume responsibility for, the future of their disciplines.

Support Principle: Successful engagement in the process of learning requires collaboration among multiple partners.

Impact Principle: Effective practice yields evidence of learning.

Technology Principle: Technology facilitates teaching, learning, community building, and resource acquisition.

Standards Principle: Evidence-based standards systematically guide professional preparation and development.

Positively Impacting Learning Through Evidence-Based Practices

REQUIRED TEXTBOOKS

Raphael, L.J., Borden, G.J., & Harris, K.S. (2011). Speech Science Primer: Physiology, Acoustics, and Perception of Speech (6th ed.), Lippincott Williams & Wilkins.

COURSE DESCRIPTION

An introduction to the normal processes of communication; the intensification and prolongation of sound, the psychoacoustics of speech sound production and perception and theories of normal speech production and perception.

COLLEGE OF EDUCATION CONCEPTUAL FRAMEWORK STANDARDS (CFS)

STANDARD III-B: The student must demonstrate knowledge of basic human communication and swallowing processes, including their biological, neurological, **acoustic**, psychological, developmental and linguistic cultural bases.

Standard III-C: The student must demonstrate knowledge of the nature of speech, language, hearing, and communication disorders and differences and swallowing disorders, including etiologies, characteristics, anatomical/physiological, **acoustic**, psychological, developmental, and linguistic and **cultural** correlates.

STANDARD III-F: The applicant must demonstrate knowledge of process used in research and the integration of research principles into evidence-based clinical practice.

STANDARD III G: The student must demonstrate knowledge of contemporary professional issues.

COURSE OBJECTIVES (CO):

At the conclusion of this course and the related experiences the student will:

- CO 1. learn the history of speech science including early contributors to the current state of knowledge. (III B, III G, III F)
- CO 2. become familiar with the basic tenets of acoustics and those attributes that relate to normal and abnormal speech production. (III B)
- CO 3. review information on anatomy, physiology and neurology. (III B)
- CO 4. learn the science of speech production including the measurement and visual representation of the speech wave. (III C)
- CO 5. learn the science of speech perception including the understanding of the cues (features) necessary for decoding speech sounds and theories of perception. (IIIC)

COURSE ACTIVITIES / ASSIGNMENTS / REQUIREMENTS

1. Activity: Students will use assigned laboratory time to become familiar with the contents of the computer based program **Speech Production and Perception I**
 - a. **Going from spectra to spectrogram**
 - b. **Speech sound Production**
 - c. **Speech sound perception**

CO 2,3,4,5

COURSE EVALUATION

Exams: There will be four examinations. The student's final grade will be determined by the points received for all four examinations. The final examination will not be cumulative.

Grading Scale

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69
- F = 59 and below

ATTENDANCE POLICY

A student who misses more than 20% of the scheduled classes of a course will be subject to receiving a failing grade in the course. The course relies on participations and interaction of students and guest speakers. Make-up exams or assignments will not be administered unless the reason for missing the exam is documented. The student is responsible for contacting the professor either by email or by phone prior to missing the assignment.

DEWAR COLLEGE OF EDUCATION POLICY STATEMENT ON PLAGIARISM

Below is information directly quoted from the Academic Honesty Policies and Procedures:

Academic integrity is the responsibility of all VSU faculty and students. Faculty members should promote academic integrity by including clear instruction on the components of academic integrity and clearly defining the penalties for cheating and plagiarism in their course syllabi. Students are responsible for knowing and abiding by the Academic Integrity Policy as set forth in the Student Code of Conduct and the faculty members' syllabi. All students are expected to do their own work and to uphold a high standard of academic ethics.

The full text of Academic Honesty Policies and Procedures is available on the Academic Affairs website (<http://www.valdosta.edu/academic/AcademicHonestyatVSU.shtml>).

The consequences for acts of academic dishonesty in the Dewar College of Education are:

FIRST OFFENSE:

1. The faculty member will administer an academic response (e.g. resubmit / retake assignment, failure of the assignment, failure of the course).
2. The faculty member will complete a Dewar College of Education Concern Form (<http://www.valdosta.edu/coe/studentsinfo.shtml>).
3. The faculty member will complete a Valdosta State University Report of Academic Dishonesty (<http://www.valdosta.edu/academic/AcademicHonestyatVSU.shtml>).

SECOND OFFENSE:

1. The faculty member will administer an academic response (e.g. resubmit / retake assignment, failure of the assignment, failure of the course).
2. The faculty member will complete a Dewar College of Education Concern form (<http://www.valdosta.edu/coe/studentsinfo.shtml>). The Dewar College of Education Concern Form Policy will be followed.

3. The faculty member will complete a Valdosta State University Report of Academic Dishonesty (<http://www.valdosta.edu/academic/AcademicHonestyatVSU.shtml>). According to the Academic Honesty Policies and Procedures document, “after a second (or subsequent) Report of Academic Dishonesty has been submitted to the Student Conduct Office in the Dean of Students Office, official charges will be drawn up and the disciplinary matter will be referred to the Valdosta State University Judicial Committee.”

SPECIAL NEEDS STATEMENT

Valdosta State University is an equal opportunity educational institution. It is not the intent of the institution to discriminate against any applicant for admission or any student or employee of the institution based on the sex, race, religion, color, national origin, or handicap of the individual. It is the intent of the institution to comply with Title VI of the Civil Rights Act of 1964 and subsequent executive orders as well as Title XI in Section 504 of the Rehabilitation Act of 1973.

Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Students with Disabilities located in Farber Hall- South. The phone numbers are 229-245-2498 (V/VP) and 229-219-1348 (TTY).

STUDENT OPINION OF INSTRUCTION

At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available on BANNER. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous, and instructors will be able to view only a summary of all responses two weeks after they have submitted final grades. While instructors will not be able to view individual responses or to access any of the responses until after final grade submission, they will be able to see which students have or have not completed their SOIs, and student compliance may be considered in the determination of the final course grade. These compliance and non-compliance reports will not be available once instructors are able to access the results. Complete information about the SOIs, including how to access the survey and a timetable for this term is available at <http://www.valdosta.edu/academic/OnlineSOIPilotProject.shtml>.

INSTRUCTOR

Name: Matthew Carter, CCC-SLP
Office Number: 251
Telephone Number: 219-1328
Email Address: mdcarter@valdosta.edu

Office Hours:

Monday: 8:30 – 9:00; 10:30 – 11:30; 1:00 – 2:00
Tuesday: 9:00 – 9:30; 1:00 – 3:00
Wednesday: 10:30 – 11:30; 1:00 – 2:00
Thursday: 1:00 – 2:30
Friday: 8:30 – 9:00; 10:30 – 11:00

COURSE SCHEDULE**

1/8	Introduction/Syllabus
1/10-1/15	Speech, Language, and Thought/Pioneers in Speech Science
1/17	Simple Harmonic Motion
1/22	Particle and Pressure Movement
1/24	Constituents of Sound/Interference
1/29	Tones/Harmonics/Aperiodic Signals/Frequency and Pitch
1/31	Intensity/Sound Velocity
2/5	Wave Length/Resonance/Review for Exam I
2/7	EXAM I
2/12	Neurophysiology of Speech
2/14-2/21	Respiratory System
2/26-2/28	Phonatory System
3/5	Articulation and Resonance/vocal tract/Review for Exam
3/7	EXAM II
3/12	Acoustic Theory/Tube and Vocal Tract resonance/Source Filter Output
3/14	Spectrograms/Acoustics and Articulation of Vowels/Vocal Tract Size/Resonant Consonants Semivowels
3/18-3/22	SPRING BREAK/NO CLASS
3/26	Resonant Consonants Nasals and Fricatives
3/28	Resonant Consonants Stops and Affricates
4/2	Assimilation, Coarticulation, and Suprasegmentals/Review for Exam III
4/4	EXAM III
4/9	Perception Acoustic Cues
4/11	Perception of Vowels
4/16	Perception of stops, fricatives, and affricates
4/18	Categorical Perception/Speech Perception Theories
4/23	Review for Final Exam
4/25	Final Exam