

# Minnesota State University Moorhead

## SLHS 421: Speech and Voice Science

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

This course requires both of these prerequisites

SLHS 201 - Linguistic Phonetics

SLHS 202 - Anatomy and Physiology of Normal Speech and Hearing

Corequisites: None

MnTC Goals: None

The study of speech acoustics and physiology, incorporating both voice and articulatory aspects of speech signal production, as well as the instrumentation needed for measurement of speech acoustic signals.

**B. COURSE EFFECTIVE DATES:** 02/02/2015 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Course Introduction & Speech Science Overview
2. Basic Acoustics
3. Waveforms & Spectra Spectrograms
4. Speech Production: Respiration
5. Speech Production & Phonation
6. Speech Acoustics Vowels Source-Filter Theory
7. Speech Acoustics Consonants
8. Spectrographic Analysis
9. Speech Science Instrumentation

### D. LEARNING OUTCOMES (General)

1. Understand basic principles of physical sciences of acoustics as it pertains to human voice & articulatory productions.
2. Understand anatomical and physiological bases for voice and speech production
3. Understand dynamic relationship between physiology and acoustics for voice and speech production
4. Demonstrate understanding of acoustic changes as a result of vocal and articulatory differences/pathological etiologies
5. Understand models and theories of speech perception Demonstrate use of instrumentation for analysis of typical or atypical acoustic samples of voice/speech.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted