CMDS 7840 - AUGMENTATIVE AND ALTERNATIVE COMMUNICATION
COURSE SYLLABUS & SCHEDULE –
Auburn University - Summer Semester 2014, 3 Credits

INSTRUCTOR: Larry Molt, Ph.D.; Office: 1181 Haley Center; Phone: 844-9613 or 844-9600; Office Hours: Tuesday, Thursday 1:00 - 3:00 PM; other hours by appointment. e-mail: moltlaw@auburn.edu. I will attempt to respond to e-mails within 24 hours of receiving them (weekdays)

COURSE OVERVIEW: The purpose of this course is threefold: first, to introduce the student to the nature of augmentative and alternative communication systems (AACS); secondly, to describe the decision-making process utilized in selecting AACS, and finally to discuss how the usage of AACS systems might be implemented with different populations. Several representatives from major AACS hardware/software companies will be demonstrating their products in class.

COURSE OBJECTIVES: By the end of this course the student will be able to
1. Describe, using appropriate terminology, various types of AACS systems, including
   • access options
   • symbol system options
   • message encoding & rate enhancement options
   • "low" technology vs. "high" technology systems
2. Describe the steps and the decision-making process involved in a comprehensive assessment for determining optimal AACS selection,
3. Describe the issues, decision-making process, and specific procedures involved in implementing AACS usage, both in general and in particular populations including
   • persons with various types of developmental disabilities
   • persons with various types of acquired disabilities
(Note: Specific ASHA CCC Standards/Knowledge & Skill Outcomes covered in this class are listed in appendix at end of syllabus)

TEXTBOOK:

GRADING, ATTENDANCE, AND OTHER POLICIES:
Grades will be based on cumulative performance on three tests (equally weighted-100 points each- 1 dealing with the nature of AACS systems, one with the assessment process for selecting AACS, and the 3rd dealing with intervention procedures) and a research project (see description below) that is worth 50 points, yielding the total number of points for the class at 350. Final grades are computed as a percentage (total points obtained divided by 350), with the grades as follow: A=100-90%; B=89.9-80%; C=79.9-70%; D=69.9-60%; F= less than 60%. Borderline grades will be affected by class attendance and amount of classroom interaction.
Research Project: Listed below are 5 examples - students can chose from those topics or select a topic of their own choosing (please clear your topic with the instructor before beginning!). Please note: these are to be in your own words – DO NOT PLAIGARIZE!
1. Create a hypothetical client, “administer” a comprehensive AAC diagnostic evaluation and report the outcome across all areas, describe an appropriate AAC system for this individual based on the diagnostic outcome, and describe how you would implement its usage.
2. Investigate sources of funding for AAC systems. Be sure to include local, state, regional, and national sources. Provide appropriate information for each source such as: eligibility requirements, funding limits, funds available, application procedures. IN YOUR OWN WORDS!

3. Review information concerning AAC that is available via the internet. Provide URL, describe what is available at each site, indicate for whom it is useful (SLPs, parents, teachers, users, etc.). Must have at least 50 sites (URLs). IN YOUR OWN WORDS!

4. Using the Mayer-Johnson Boardmaker software in the AUSHC student computer lab, create a series of communication boards or overlays for a dynamic system (include a thorough description of the client and appropriate ADL, academic, social, and special interest boards/overlays). OF YOUR OWN DESIGN!

5. Using the Dyna-Vox or Mercury dedicated systems, create a series of communication boards or overlays for a particular user/client (include a thorough description of the client and appropriate ADL, academic, social, and special interest boards/overlays). OF YOUR OWN DESIGN!

Other Important Policies/Announcements

• Students are expected to attend each and every class and meet all exam and assignment deadlines. Students are responsible for all information presented if absent from class. All tests and assignments are expected to be completed on the date indicated in syllabus and/or announced in class. Please attempt to notify the instructor in advance (prior to deadline/exam if you will be absent due to serious illness or other catastrophic circumstance. Make-up exams or acceptance of overdue assignments, will be allowed only in the case of university accepted excuses, and exams must be made up within 1 week returning to class, otherwise student will receive a grade of “0”.
• Students are expected to be aware of, and to abide by, the University’s academic honesty policy.
• Reading assignments are contained in the class schedule. Students must read assigned chapters before attending the next class. The only way to come to each lecture is to be prepared.
• Students may withdraw from course (with a W on transcript) until mid-semester (June 19th)
• Students with disabilities requiring accommodations should notify the instructor so that necessary accommodations can be made and must also verify his/her disability with the Office of Accessibility (Haley Center, room 1228).
• Maintenance of a constructive learning environment is essential in this course. Behaviors cited as disruptive will not be tolerated and will be dealt with according to university policy (see www.auburn.edu/administration/governance/senate/behavior_policy_may03.html).
• Situations signaled by the university fire alarm, weather siren, or other warning systems may occur during this class period. Instructions issued by the teacher or other university personnel should be followed and may include to “shelter,” to “evacuate,” or to “barricade” in the room (see www.auburn.edu/administration/rms/emergency.html). When sheltering, anatomy students are to walk calmly to the nearest Severe Weather Shelter Area (green and white mall-mounted signs). Students should assemble there, sitting in the hallway, so that all classmates can be accounted for. When evacuating, students are to walk calmly down the hall: exit the classroom heading toward building exit doors and the Haley concourse. Cross the concourse and assemble in the grassy knoll leading to Cater Hall. Students should gather in the grassy knoll so that all classmates can be accounted for. When barricading in the room, turn out lights, draw blinds, turn off computers, cell phones, barricade the door, stay away from windows, and crouch behind furniture and walls.
• Changes to the syllabus: The instructor reserves the right to make changes in the syllabus as necessary to meet class needs. These may occur as the course moves along through the semester. Students will of course be notified immediately of any such changes.

TENTATIVE COURSE SCHEDULE: This schedule is provided to assist the student in completing reading assignments and planning for exam study; the instructor reserves the right to make any changes in the schedule as necessary to meet class or instructor needs or obligations.
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<td>May 20 - Review Syllabus; Video: King Gimp</td>
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<td>May 22 - Introduction - Basic concepts relating to AACS</td>
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<td>May 26</td>
<td><strong>PART 1: AAC SYSTEMS</strong></td>
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<td>May 27 - Overview of Issues related to Message set</td>
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<td>May 29 - Symbol systems - Unaided (gestural) systems</td>
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<td>June 2</td>
<td>June 3 - Unaided (cont’d); Aided symbol systems</td>
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<td>June 5 - Aided (cont’d); Message Encoding and Rate Enhancement options</td>
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<td>June 9</td>
<td>June 10 - Encoding/Enhancement (cont’d);</td>
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<td>June 12 - Options for accessing the AAC system: selection set</td>
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<td>June 16</td>
<td>June 17 - Access options: Displays; Selection; Feedback;</td>
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<td><strong>PART 2: ACCS ASSESSMENT</strong></td>
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<td>June 24- ACC Interdisciplinary Team; Assessment overview:</td>
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<td>June 30</td>
<td>July 1 - AAC Assessment (continued); Examples of assessment models</td>
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<td>July 3- No class (project/paper preparation)</td>
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<td>July 7</td>
<td>July 8 - Assessment summary; Decision making</td>
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<td>July 15 - Intervention principles; service delivery models</td>
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<td>July 17 - Symbol selection; Technology selection</td>
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<td>AAC intervention with beginning communicators</td>
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<td>July 21</td>
<td>July 22: Special Issues: NDT and other approaches</td>
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<td><strong>Research Project Due</strong></td>
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<td>July 24: (Last Class) Multicultural; other professional concerns &amp; issues</td>
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<td>July 30 (Wednesday) – (7:00-9:30 PM)</td>
<td><strong>Exam 3: Intervention Issues</strong></td>
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**APPENDIX 1**
CMDS 7840 AAC: Knowledge And Skills Outcomes in Relation to ASHA CCC – Speech-Language Pathology Standards

Standard IV: Program of Study - Knowledge Outcomes

Standard IV-C: The applicant must demonstrate knowledge of the nature of speech, language, hearing, and communication disorders and differences and swallowing disorders, including the etiologies, characteristics, anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates. Specific knowledge must be demonstrated in the following areas:

- communication modalities (including oral, manual, augmentative, and alternative communication techniques and assistive technologies)

Standard IV-D: The applicant must possess knowledge of the principles and methods of prevention, assessment, and intervention for people with communication and swallowing disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates of the disorders.

Part I
At completion of the course the student should be able to demonstrate the following outcomes:

Provide basic definitions and descriptions for the terminology used in the AAC field, including:
- AAC as an area of practice (especially temporary vs. permanent disabilities)
- AAC strategies (especially that they augment residual abilities, are used in conjunction)
- AAC system (esp. integrated components, multimodal in nature)
- AAC aids (give examples)
- AAC techniques (give examples)
- AAC symbols (give examples)
- For who, and when, AAC systems might be considered (including types of disabilities)
- Provides examples of the major components of an AAC system
- Alternative access
- Processes
- Output

Categorize/discuss symbols systems used in AAC:
- How clearly they represent a particular referent or language concept (e.g., transparent, translucent, opaque)
- What is needed to produce them during communication (e.g., aided, unaided, combined)
- What information they impart and how they impart it (e.g., emblems, illustrators, affect displays, regulators, adaptors)
- Specific symbol systems (e.g., Amer-Ind, Ameslan, Gestural Morse Code)

For both the following examples of unaided and aided symbol systems, describe the basic nature of each and describe advantages and disadvantages of each:
- Unaided Symbol Systems
  Amer-Ind
  Ameslan
  Manually Coded English
  Cued Speech
  Key Word Signing
  Left Hand Manual Alphabet/Manual Shorthand
Manual Self-Care Signs
Hand Talking Chart Yes-NoGESTURES
Gestural Morse Code
Tactile/vibrotactile symbol systems
Mime

- **Aided Symbol Systems: Types/Categories/Examples**
  - Tangible and Textured *(e. g., objects - full size, minatures, representational, textural)*
  - Representational *(e. g., photographs, line drawings)*
    - Photographs
    - Picture Communication Symbols (PCS)
    - Rebus Symbols
    - Picsyms
    - Pictogram Ideographic Communication (PIC) Symbols
    - Blissymbolics *(including Enhanced Blissymbolics)*
  - Abstract
    - Yerkish/Lana Lexigrams
    - Premack Non-Slip (Sarah) Symbols
  - Orthographic
    - Traditional Orthography
    - Sequences Of Phonemes For Efficient English Communication (SPEEC-256)
    - International Phonemic Alphabet (IPA) Symbols
    - Braille
  - Machine Generated Speech
    - Digitized/Recorded Speech:
      - Synthesized Speech
  - Combined Systems
    - Visual Phonics
    - Sigsymbols
    - Makaton Vocabulary
    - HANDS
    - Worldsign

**Identify general factors concerning the symbol selection set, including**
- Messages: *(e. g., decisions regarding the nature of the messages to be used (e. g., ADL, work requirements, leisure, specific interests)).*
- Transparency of Symbols and Codes
- Operational or Interactional Commands: *(e. g., will specific commands be necessary as part of the operation of the system (e. g., start, end of word/sentence, etc.)).*

**Describe factors inherent in the physical characteristics of the selection set display that will affect access, including:**
- Number of items needed to be displayed
- Nature of the symbols used and the encoding techniques utilized
- Size of device and symbols, and spacing considerations for clarity and user’s physical limitations
- Individual item size *(e. g., must consider user visual limitations, type of symbol, motor access technique to be utilized, number of items to be displayed, and how they will be utilized (must listeners/observers see them)).*
- Visual capabilities *(e. g., must items be widely separated to enhance figure/ground discrimination? Are there any visual field cuts or limitations (affecting placement)? Is acuity limited (is it necessary to use large items))?
- Motor control capabilities *(e. g., is ROM and fine motor control better on one side than the other, so that items can be spaced closer together in one location than in another? should items be arranged in an arc if ROM is reduced, or if head pointing rather than limbs are used? how can accommodations be made for inaccuracy of movement (wider apart, use of grids)).*
- Orientation Of Display *(including):*
• **Postural factors:** (e.g., is the user capable of sitting upright, or must the display be oriented to work with an abnormal posture; will the posture limit movement around the display; can orientation reduce postural (flexion/control) demands?)

• **Visual/motor considerations:** (e.g., how can orientation maximize ROM and accuracy of movement; provide support or stabilization for motor impairments; if scanning devices are utilized, can orientation enhance switch usage?)

**Select options for the display of messages** (e.g., differentiating between fixed and dynamic displays, indicate how layering or levels could be used for both types of displays, advantages & disadvantages of each, etc.)

**Describe methods for selecting symbols on an AAC system, including options/examples of:**

• Direct contact selection (direct pointing-physical contact/touch with finger, stick, or head pointer; selection by pressing key or pressure/membrane pad; etc)

• Non-contact pointing (eye gaze; light generating pointer(head-light); light activation of sensors on symbol display; sonar or infrared selection, including directing mouse/cursor movement; etc.)

• Voice activation/voice(sound) recognition

**Describe types of possible limitations and/or errors in selection of symbols or commands** (e.g., problems in accuracy of movements, consistency of movements, ability to exert adequate/consistent pressure, dragging selector across multiple symbols, etc.)

**Provide examples of activation strategies to deal with selection/access limitations, including:**

• Timed activation

• Release activation

• Filtered or averaged activation

**Identify strategies for setting up scanning patterns** to deal with limitations and/or errors in selecting symbols/commands, including:

• Circular scanning

• Linear scanning

• Row-Column scanning

• Category/Group-item scanning

• Directed scanning

• Step scanning/one-by-one movement

• Automatic/continuous scanning

• Control of scan timing and speed

• Multiple switch use in scanning

**Define the purpose of feedback within an AAC system**

**Provide examples of feedback options for indicating present choice option or selection, including:**

• Continuous feedback (say each item or visually highlight)

• Activation feedback (auditory, vibrotactile, and visual options)

• Combined feedback

**Identify ways to quickly sequence a group of symbols for faster/more efficient access, including:**

• Memory-Based Encoding

• Alpha (Letter) Encoding:

• Salient Letter/LOLEC

• Letter Category

• Alpha-Numeric Encoding

• Numeric Encoding

• Iconic Encoding (*textbook: semantic & conceptual encoding; visual-motor encoding*)

• Minspeak/Semantic Compaction

• VoisShapes, HANDS

• Color Encoding

• Chart-based/display-based

**Provide examples of symbol retrieval/learning strategies** *(ways to arrange symbols so that they can be quickly located & combined)*

• Memory-Based Retrieval strategies:
Describe message prediction strategies: dynamic retrieval process in electronic systems that automatically reduces field/choice size as commands are presented (based on what already has been formulated)

- Single Letter Prediction
- Word Level Prediction
- Word Pattern Prediction
- Linguistic Prediction
- Phrase/Sentence Level Prediction

List factors affecting message encoding & rate enhancement strategies
- Linguistic Cost
- Length
- Time
- Cognitive Processing Time
- Cognitive Processing Load

Recognize and briefly describe the "Laws for Applying Technology"

Identify examples of "Low" Technology AAC Systems, such as:
- Wearable devices: (e.g., Communication necklace, wallet, vest)
- Transportable/Stand-alone devices (e.g., communication chart, board; calendar box)
- ETRAN/Gaze systems

Identify examples of "Mid" Technology AAC Systems, such as:
- Basic battery-powered/electronic communication devices: (e.g., rotary/clock communicator, 1-4 message digitized speech devices)
- Training devices (e.g., 1-4 item box/platform digitized speech devices)

Identify examples and components of "High" Technology AAC Systems, such as:
- Computer/central processor unit (CPU)
- Keyboards (QWERTY vs ABC/alphabetical order arrangement; keyboard emulators - onscreen keyboards; extended, standard, & mini keyboards)
- Access (mouse; joystick; touch screens; touch pads; graphic tablets; optical input; speech recognition)
- Output (monitors - Cathode Ray Tube/CRT vs Liquid Crystal Display/LCD; printers; digitized speech; synthetic speech; text-to-speech)

Differentiate between non-dedicated communication devices and dedicated communication devices

Part I Assessment:
How assessed – student must make grade of 78 or higher on Part I exam.

Part II: Diagnostics/Evaluation
State why a team approach advocated for AAC assessment and intervention

List the different professions that might be represented on a team for AAC assessment and intervention

Differentiate between different approaches to team orientation and operation:
- Multidisciplinary team
- Interdisciplinary team
- Transdisciplinary team

Describe models of service delivery in AAC, including:
- regional specialty centers
- educational/regional networks
- local agencies
- private practice/consultants

Identify Silverman's (1995) seven questions to be answered by an AAC assessment and provide basic details concerning the type of information an SLP would gather in answering each question:
1. What is the cause of the person’s communication disorder?
2. How does the person currently communicate?
3. What are the person’s communication needs?
4. How well does the person perform the communication activities needed in his or her environment?
5. What is the person’s inner, receptive, and expressive language status?
6. Of the available augmentative communication strategies, which would the person be able to use?
7. Of the usable strategies, which would be optimal for meeting the person’s communication needs, based on the following criteria:
   1. To what extent does the strategy allow the person to meet his or her communication needs?
   2. What is the cost of the components (hardware) and their maintenance?
   3. How long will it take the person to learn to use the strategy well enough to meet his or her communication needs?
   4. How portable is the strategy?
   5. How much will the strategy interfere with ongoing activity?
   6. How intelligible will the messages be to untrained observers?
   7. How much training will be required of observers?
   8. How acceptable will the strategy be to both users and observers?

Provide examples of the type of information the SLP should gather for an AAC evaluation in the following areas:

- Primary & secondary disability
- Special education services currently in place
- Medical diagnosis
- Sensory functioning/impairments
- Cognitive status
- Academic status
- Behavioral status
- Ambulation status
- Seating and positioning factors
- Body tone status
- Abnormal/primitive (interfering) reflex status
- Range and accuracy of motion status
- Oral-motor status
- Previous communication interventions
- Current communication status
- Receptive communication skills
- Expressive communication skills
- Symbol/Symbolic communication capabilities
- Symbol categorization and association capabilities
- Encoding capabilities
- Desire to communicate
- Knowledge of social rules
- Current communication interaction
- Current communication needs
- Family setting
- School or vocational setting
- Community setting
- Future communication needs
- Expectations and Goals
- Area of greatest need
- System Access needs/capabilities

Describe the decision-making process in selecting intervention strategies for individuals for AAC usage.

Part II Assessment:
How assessed – student must make grade of 78 or higher on Part II exam.
Part III: Treatment/Intervention

Identify and describe the structure of several pre-language communication instruction programs, such as:

- Transactional approach (McClean & Snyder-McLean)
- Ecological Communication (ECO) Systems approach (MacDonald & Gillette)
- Developmental/Social Integration approach (Dunst & Lowe)
- Van Dijk approach (Van Dijk)
- Modified Van Dijk approach (Sternberg & McNerney)
- Picture Exchange Communication System (PECS) (Frost & Bondy)

Identify various strategies for selecting a vocabulary for an AAC system, including:

- Coverage Vocabularies (basic communication needs)
- Developmental Vocabularies (to encourage language growth)
- Vocabulary-Use Patterns of other AAC Users
- Vocabulary-Use Patterns of Typically-Developing Speakers
- Informants
- Calendar/Schedule systems
- Monitoring Communication Environments (including shadowing)
- Dialogue/Script approaches
- Communication Diaries and Checklists

Describe factors affecting vocabulary usage include:

- Age
- Gender
- Social Role
- Variety of environments in which communication takes place (home, school, work/vocational, hospitals, community living facilities, etc.)
- Variety of communication contexts/topics (e.g., educational, social, religious, recreational, vocational, etc.)

Outline a normal conversational pattern and describe how that should serve as a template for selecting and structuring vocabularies for AAC systems, including:

- Greeting/Opening
- Small talk
- Information sharing (e.g., stories/narratives, procedural descriptions, requests, or content-specific conversations)
- Wrap-up remarks/Closing
- Final farewell

Provide examples of items for each of the following types of vocabulary categories that might be utilized in a typical AAC system:

- single word categories
- one shot/stereotypical utterances
- situational themes
- categorical themes
- theme generic vocabulary
- theme specific vocabulary

List areas of concern in implementing AAC usage from diversity/multicultural perspectives:

- Nonverbal aspects of communication
- Vocabulary
- Linguistic/Dialectal aspects
- Cultural communication patterns

Identify various factors that may influence how a family interacts with AAC intervention that may vary from a diversity/multicultural perspective:

- Family & Community perception of cause of child’s disability (e.g., role of fate, supernatural phenomena, who is responsible, etc.)
- Family & Community attitudes towards persons with disabilities
- Family perception of social participation & roles appropriate for children with disabilities
- Attitudes toward the use of technology
- Priorities with regard to services for their child
- Expectations for the child’s survival and success

Provide examples of discrepancies between language & culture assumed by assessment instruments/tests & the language & culture of the test taker, such as:

- Adequacy of normative data for culture & language of test taker
- Communication style bias – confusion or misunderstanding from communication style expected by test vs. cultural communication style of test taker
- Directions/format bias – confusion or misunderstanding from use of unfamiliar or ambiguous directions or test formats, including procedures that may violate an individual’s cultural rules for social interaction
- Linguistic bias – mismatch in phonology, grammar, and/or vocabulary and language/dialect required by test vs. that of test taker
- Response Bias - mismatch between response mode required by test and the abilities and/or culturally preferred style for communication interaction and responses of test taker
- Values bias – mismatch between values assumed in test items and the values of test taker

Identify critical areas necessary to consider in providing a culturally appropriate means to communicate:

- Sampling language and/or dialect of siblings and peers may be useful in structuring vocabulary
- Vocabulary should allow user to communicate about things considered important to his/her culture
- Vocabulary should be reviewed by a person highly familiar with the user’s native language and culture
- Intervention should take into account the rules of social and communicative interaction as defined by the user’s cultural group and should be built on:
  - Culturally meaningful nonverbal forms of communication
  - Communication functions most frequently used at home and other settings in which AAC communication will be utilized
- Discourse strategies appropriate to culture and particular situations

Part III Assessment:
How assessed – student must make grade of 78 or higher on Part III exam.