



**College of Education and Human Development  
Division of Special Education and disAbility Research**

Fall 2018

EDAT 525 DL1: Software and Mobile Applications for Individuals with Disabilities.  
CRN: 72692, 3 – Credits

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|---|--|
| <b>Instructor:</b> Dr. Yoosun Chung               | <b>Meeting Dates:</b> 8/27/2018 – 12/19/2019 |
| <b>Phone:</b> (703) 988-3486 (text-relay-service) | <b>Meeting Day(s):</b> Net                   |
| <b>E-Mail:</b> ychung3@gmu.edu                    | <b>Meeting Time(s):</b> Net                  |
| <b>Office Hours:</b> by appointment               | <b>Meeting Location:</b> On-line             |
| <b>Office Location:</b> Finley Building, 203A     | <b>Other Phone:</b> N/A                      |

\*Note: This syllabus may change according to class needs. Teacher Candidates/Students will be advised of any changes immediately through George Mason e-mail and/or through Blackboard.

**Prerequisite(s):** None

**Co-requisite(s):** None

**Course Description**

Provides overview with software, mobile applications, and accessibility features. Identifies design features to meet individual's special needs; provides hands-one experiences with the range of software and mobile applications that incorporate evidence-based strategies for individuals with disabilities across environments, settings and the life span. Field experience may be required. Offered by [Graduate School of Education](#). May not be repeated for credit.

**Advising Contact Information**

Please make sure that you are being advised on a regular basis as to your status and progress through your program. Mason M.Ed. and Certificate teacher candidates/students should contact the Special Education Advising Office at (703) 993-3670 for assistance. All other teacher candidates/students should refer to their faculty advisor.

**Course Instructional Method**

EDAT 525 is an asynchronous online course. Using Blackboard, students are expected to complete assignments weekly and be engaged in course activities throughout the semester.

**Course Delivery Method**

Learning activities include the following:

1. Learning module lectures, discussion, and participation
2. Software and hardware demonstrations
3. Group and independent laboratory exploration activities
4. Direct AT service interactions
5. Class presentations

This course will be delivered online (76% or more) using an **asynchronous** format via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason email name (everything before @masonlive.gmu.edu) and email password. The course site will be available on the posted start date of the course.

**Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.**

#### *Technical Requirements*

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see: [https://help.blackboard.com/Learn/Student/Getting\\_Started/Browser\\_Support#supported-browsers](https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers)

To get a list of supported operation systems on different devices see:

[https://help.blackboard.com/Learn/Student/Getting\\_Started/Browser\\_Support#tested-devices-and-operating-systems](https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems)

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
  - Adobe Acrobat Reader: <https://get.adobe.com/reader/>
  - Windows Media Player: <https://support.microsoft.com/en-us/help/14209/get-windows-media-player>
  - Apple Quick Time Player: [www.apple.com/quicktime/download/](http://www.apple.com/quicktime/download/)

## *Expectations*

- Course Week:  
Because asynchronous courses do not have a “fixed” meeting day, **our week will start on Tuesday, and finish on Monday.**
- Log-in Frequency:  
Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials **at least two times per week.**
- Participation:  
Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence:  
Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues:  
**Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.**
- Workload:  
Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student’s responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support:  
Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette:  
The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words.* Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.
- Accommodations:  
Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

## **Learner Outcomes**

Upon completion of this course, students will be able to:

1. Explain legislative mandates and governmental regulations related to accessibility of software and mobile applications.
2. Define accessibility in the context of digital technologies.
3. Identify various software tools available to determine the extent to which a digital content item is accessible.
4. Evaluate the accessibility of digital content.
5. Examine built-in accessibility features available in a variety of stationary and mobile platforms.
6. Gather and organize software and mobile applications resources.
7. Compare software and mobile application features for individuals with disabilities.
8. Design and create a software program or mobile application prototype with accessibility features supported by the rationale for the prototype and its features.
9. Plan for continuous data collection to evaluate the outcomes, reevaluation, and adjusting the system as needed.

## **Course Relationship to Program Goals and Professional Organizations**

This course is part of the George Mason University, Graduate School of Education (GSE), Assistive Technology Program. The Assistive Technology Program has developed program specific standards in accordance with CAEP requirements. The Assistive Technology Program Standards incorporate several elements within the professional standards from the Council for Exceptional Children (CEC), while also expanding upon them to meet the specific needs related to assistive technology. Upon completion of this course, students will have met the following professional standards:

### **Standard 2: Knowledge and Skills**

Candidate is knowledgeable of legislative mandates and governmental regulations related to technology and their implications for individuals with exceptional needs. Candidate can identify a range of funding sources and processes of acquisition of assistive technology devices and services. Candidate is knowledgeable of and demonstrates proficiency in use of a range assistive technology tools. In conjunction, candidates possess a repertoire of evidence-based strategies to develop personalized supports for individuals with exceptional needs across environments, settings, and the life span. Candidate continuously broadens and deepens their professional knowledge, and expands their expertise with assistive technology tools and strategies.

### **Standard 4: Practical Experience**

Candidate applies knowledge and skills to identify user needs and customize assistive technology tools and strategies that are meaningful and useful. Candidate provides customized assistive technology training services to individuals with exceptional needs, their families, and/or their community of support. Candidate develops and customizes individualized technology-based solutions to address exceptional needs. \*NOTE: CAEP Assessments (in many but not all courses) may address additional AT Program standards.

### **Required Textbooks**

Ault, M., & Bausch, M. (2012), *Apps for all students: A teacher's desktop guide*. Arlington, VA: TAM CEC

### **Recommended Textbooks**

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

### **Additional Readings**

Readings relevant to the evaluation of software and mobile applications are provided by the instructor, including research articles and links to vendor websites. All course materials are available on the Blackboard site.

### **Course Performance Evaluation**

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

### **Tk20 Performance-Based Assessment Submission Requirement**

It is critical for the special education program to collect data on how our students are meeting accreditation standards. Every teacher candidate/student registered for an EDSE course with a required Performance-based Assessment (PBA) is required to upload the PBA to Tk20 (regardless of whether a course is an elective, a one-time course or part of an undergraduate minor). A PBA is a specific assignment, presentation, or project that best demonstrates one or more CEC, InTASC or other standard connected to the course. A PBA is evaluated in two ways. The first is for a grade, based on the instructor's grading rubric. The second is for program accreditation purposes. Your instructor will provide directions as to how to upload the PBA to Tk20.

For EDAT 525, the required PBA is (**NO ASSESSMENT REQUIRED FOR THIS COURSE**). Failure to submit the assignment to Tk20 will result in reporting the course grade as Incomplete (IN). Teacher candidates/students have until five days prior to the University-stated grade change deadline to upload the required PBA in order to change the course grade. When the PBA is uploaded, the teacher candidate/student is required to notify the instructor so that the "IN" can be changed to a grade. If the required PBA is not uploaded five days prior to the University-stated grade change deadline and, therefore, the grade not changed, it will become an F. Please check to verify your ability to upload items to Tk20 before the PBA due date.

### **Assignments and/or Examinations**

**Performance-based Assessment (Tk20 submission required)**

**TK20 Submission not required for this course**

**College Wide Common Assessment (TK20 submission required)**

N/A

### **Performance-based Common Assignments (No Tk20 submission required)**

Courses with multiple sections often require "common" assignments across sections to ensure consistency in instruction and learning. This course does not require the use of a common assignment(s). All course assignments are outlined in the *Other Assignments* section.

### **Field Experience Requirement**

A Field Experience is a part of this course. A field experience is a variety of early and ongoing field-based opportunities in which candidates may observe, assist, tutor, and/or conduct research.

Below are REQUIRED PROCEDURES FOR ALL STUDENTS ENROLLED IN THIS COURSE

1. Prior to representing George Mason in off-campus settings, visit this site:

<http://cehd.gmu.edu/teacher/internships-field-experience>.

The site has a comprehensive PowerPoint on the registration process and tips for a successful field experience. This is called the Field Experience Presentation.

2. Complete the online field experience registration form at the beginning of the semester (if not before) and complete the information requested.

<http://cehd.gmu.edu/endorse/ferf>

Fields marked with \* are required.

Please indicate how your placement will be arranged. Select the following:

- *I will arrange my own field experiences (observations and/or case studies) because I am conducting a case study or individualized child portfolio with an individual outside of the school system (Special Education, Assistive Technology, Early Childhood Special Education, Early Childhood Education PK-3, Dual Licensure Early Childhood Education PK-3 and Early Childhood Special Education only).*

### **Other Assignments**

#### **1. Weekly Online Modules (50 points) – Due Monday of that week**

Students must access online class on Blackboard weekly and complete posted activities for all classes. Posted activities will include PowerPoint presentations of content, Internet search/research assignments, video exploration and viewing, community exploration,

response tasks and construction activities. All weekly activities are due by Monday, 11:59pm of that week.

Note: Some activities are required to interact with classmates. In this case, the original posting should be posted by Monday, 11:59pm of that week. The responses to other classmates should be posted by Tuesday, 11:59pm. of that week.

## **2. Software Program/App Development (20 points)**

Students will design and develop a software program/app that is appropriate for individuals with disabilities. Students can choose to use one of several authoring programs, which include PowerPoint, Pixie 4, Clicker 7, and Boardmaker. Software programs/apps will be evaluated based on layout quality and consistency, program content, appropriate use of student and teacher features, and accessibility through alternate access methods. Students will also create an offline activity that can be used in conjunction with the software program. The operation of software/app can be simulated using PowerPoint templates with interactive components. The final product will include: (a) rationale/storyboard; (b) software program/app; (c) offline activity; and (d) presentation.

## **3. Software Program/App Assessment (30 points)**

Students will identify an individual with a disability to conduct a software/app assessment. Based on the individual's learning needs, students will select 2-3 pieces of software/app to use with the individual over a period of time. Using a developed data collection method, students will instruct, observe, and evaluate the individual using the software program/app. Students will then write a brief assessment report identifying the strengths and limitations of the software programs/app (including access methods, data reporting options, and other software features). The report will also include 2-3 recommendations for other software programs that would be appropriate for the individual. The recommendations should include a brief program description, vendor information, and price. The final project will also include a detailed plan for data collection in order to monitor the outcomes, reevaluate, and adjust the software/app features.

### **a. Software/App Overview**

Candidate provides a description of the pre-selected software and/or mobile apps. The description should include the purpose of the software/apps, their features, and their vendor/contact information.

### **b. User Characteristics & Needs**

Candidate provides a rationale for selecting the user/individual(s) for who they are designing the training. A listing of the user's prerequisite skills as well as the needs they have for potentially using the AT will be outlined. Consideration of diverse needs of both the user in training as well as those that may be affected by the training should be addressed.

### **c. Evaluation Trials**

Candidate conducts evaluation trials with the individual using identified software/apps to determine technology potential. Data sheets noting user/client trial abilities/limitations while using technologies, preferences for specific technologies, and technology access placement and positioning will be completed and used to appraise the use of each software/app. The

plan will be developed to monitor the outcomes, reevaluate, and adjust the software/app features.

d. Customized Training

Candidate designs a training plan customized specifically for the user that is to be trained. The plan should include: *goal(s)* of the 1 hour training, *objectives* for each section or topic being trained and allocated *timeframe* for each, a listing of training *materials*, *procedural steps* for the training that integrate *evidence-based strategies* and *data* collection, and additional *resources* for the user to take with them following the training.

e. Demonstration

Candidate records a 2-3 minute video documenting a portion of the training that shows the candidate demonstrating the use of the software/app. The video will accompany the Instructional Plan write-up as evidence the candidate has proficiency in AT use.

f. Reflection

Candidate provides a reflection on the implementation of the software/app training from both the candidate/instructor and the user/student perspective. The reflection will also include of a listing of what would be done differently if the training were repeated, what steps should be taken if additional training was needed and what potential professional development the candidate/trainer needs might require to provide additional training.

g. Community Impact

Candidate discusses the potential impact their software/app training could have on individuals with disabilities, their families, and communities across environments, settings and life span.

## **Course Policies and Expectations**

### **Attendance/Participation**

Students must login each week at least 2 times during the module time period in order to complete activities and check for any announcements. Due dates for all activities will be clearly noted within the module

### **Late Work**

In fairness to students who make the effort to submit assignments on time, there will be a 10% cost reduction *per day* for late papers (For example, a 20 point assignment will lose 2 points per day while a 50 point assignment will lose 5 points per day). All assignments should reflect graduate-level spelling, syntax, and grammar. If you experience difficulties with the writing process you will need to document your work with the GMU Writing Center during this course to improve your skills. The instructor reserves the right to request that a student recycle a product that is not satisfactory. In such cases, resubmitted assignments are not eligible for full credit and a response cost of 10 percent may be assessed. Please note that assignments worth 1 point that are submitted late will receive a score of 0.

Evaluation will be based upon a point system. The point value for each assignment is as follows:

|                                       |     |
|---------------------------------------|-----|
| Weekly Online Modules.....            | 50  |
| Software Program/App Development..... | 20  |
| Software Program/App Assessment.....  | 30  |
| <hr/>                                 |     |
| TOTAL POINTS.....                     | 100 |

**Grading Scale**

- 95-100 = A
- 90-94 = A-
- 86-89 = B+
- 83-85 = B
- 80-82 = B-
- 70-79 = C
- < 70 = F

\*Note: The George Mason University Honor Code will be strictly enforced. Students are responsible for reading and understanding the Code. “To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.” Work submitted must be your own or with proper citations (see <https://catalog.gmu.edu/policies/honor-code-system/>).

**Professional Dispositions**

Students are expected to exhibit professional behaviors and dispositions at all times. See <https://cehd.gmu.edu/students/polices-procedures/>.

**Class Schedule**

\*Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

| Module                        | Topic/Learning Activities   | Textbook Readings*,<br>Weekly Activities                    |
|-------------------------------|---|---|
| <b>Module 1</b><br>8/28 – 9/3 | Introduction <ul style="list-style-type: none"> <li>• Exploring software and mobile applications</li> </ul> | Chapters 1 & 2<br><br><b>Getting to Know You Assignment</b> |
| <b>Module 2</b><br>9/4 - 9/10 | <ul style="list-style-type: none"> <li>• What makes a piece of software "special"?</li> </ul>               | <b>Learning Module Activities</b>                           |

|   |  |   |
|---|--|---|
|   | <ul style="list-style-type: none"> <li>• What are learners' characteristics/areas of need?</li> </ul>  |   |
| <b>Module 3</b><br>9/11 – 9/17<br><br><b>Module 4</b><br>9/18 - 9/24  | Evaluating Educational Software and Mobile Apps <ul style="list-style-type: none"> <li>• Demonstration and review of existing educational software and mobile apps</li> <li>• Software and App Evaluation Checklist</li> <li>• Identifying software and apps with user characteristics</li> </ul>  | Chapters 3, 4 & 5<br><br><b>Learning Module Activities</b>  |
| <b>Module 5</b><br>9/25-10/1<br><br><b>Module 6</b><br>10/2 -10/8     | Software and App Exploration Beyond Education <ul style="list-style-type: none"> <li>• Demonstration and review of switch software, scanning, life skills software and apps</li> <li>• Online/Offline Connection</li> </ul>  | Chapters 6 & 7<br><br><b>Learning Module Activities</b>   |
| <b>Module 7</b><br>10/9-10/15   | Software/App Design/Authoring Tools <ul style="list-style-type: none"> <li>• Copyright and Fair Use</li> <li>• Storyboarding</li> <li>• Screen design</li> <li>• Screen development</li> <li>• Including accessibility features in design</li> <li>• Begin review of authoring programs</li> </ul> | <b>Learning Module Activities</b>   |
| <b>Module 8</b><br>10/16-10/22<br><br><b>Module 9</b><br>10/23– 10/29 | Authoring Tools <ul style="list-style-type: none"> <li>• Powerpoint</li> <li>• Pixie 4</li> <li>• Clicker 7</li> <li>• Boardmaker</li> </ul>   | <b>Learning Module Activities</b><br><br><b>Software Program/App Development (Due 10/29) – 20 pts</b> |
| <b>Module 10</b><br>10/30-11/5  | Built-in Accessibility Features in a Variety of Stationary and Mobile Platforms <ul style="list-style-type: none"> <li>• What are built-in accessibility features?</li> <li>• Are they supported by software and apps</li> <li>• Identify tools for accessibility of digital contents</li> </ul>   | <b>Learning Module Activities</b>   |
| <b>Module 11</b><br>11/6– 11/12                                       | Data Collection to Determine Outcomes, Usability, and Possible Revisions   | <b>Learning Module Activities</b><br><br><b>Data Collection Plan Draft</b>                            |

|                                 |  |   |
|---------------------------------|--|---|
| <b>Module 12</b><br>11/13-11/19 |  |   |
| <b>Module 13</b><br>11/20-11/26 | Identify & Utilize Tools for Testing Accessibility of Digital Contents | <b>Learning Module Activities</b>   |
| 11/27-12/10                     | Final Project Development Period                                       | <b>Software Program/App Assessment including Data Collection/Revision Plan (Due 12/10) – 30 pts</b> |

\* Additional readings will be provided by the instructor in the Weekly Learning Modules.

### Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>

### GMU Policies and Resources for Students

#### Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/> ).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

#### Campus Resources

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.

- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/>.**

## **Appendix**

**Assessment Rubric(s)**

N/A