

**GEORGE MASON UNIVERSITY  
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT  
SPECIAL EDUCATION PROGRAM**

EDSE 517 Section 617 (3 credits)  
Computer Applications for Special Populations  
Fall, 2005

Tuesdays 4:30 p.m.-8:30 p.m.

Prince William Campus of George Mason University, Bull Run Hall, Room 250

**PROFESSOR:**

Peg Siegenthaler, M. Ed.

Phone: 703-791-7292

Email: [siegenp@pwcs.edu](mailto:siegenp@pwcs.edu)

Office Hours: By appointment, Independent Hill Complex, Building 100, Room 13

**COURSE DESCRIPTION:**

- A. Prerequisites: graduate standing or permission of instructor
- B. Lecture and laboratory course for teachers of special populations in applications of computer technology for instructional programs and computer skills. Students learn to use computer technology designed for special populations.

**NATURE OF COURSE DELIVERY:**

1. Learning activities in this class will include the following:
2. Class lecture, discussion, and participation
3. Software and hardware presentations
4. Group and independent laboratory activities
5. Class presentations
6. Written papers using the American Psychological Association format (5<sup>th</sup> edition)

**STUDENT OUTCOMES:**

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

1. Demonstrate an understanding of the history of assistive technology.
2. Describe and implement a comprehensive set of procedures for software review and evaluation for specific populations.
3. Describe and utilize key devices and software tools designed to help individuals with disabilities in educational settings including learning, physical, sensory, and intellectual disabilities.
4. Describe key features in selecting and using an augmentative and alternative communication device for an individual.
5. Define the issues related to the accessibility of the Internet by individuals with disabilities.
6. Evaluate and select appropriate web-based activities for individuals with disabilities.
7. Adapt and modify general education curriculum and class activities using assistive technology to meet the needs of diverse learners.
8. Design an appropriate technology integrated lesson plan for special education population.

**PROFESSIONAL STANDARDS:**

This course is part of the George Mason University, Graduate School of Education and Human Development, and Special Education Master's Degree Program.

**REQUIRED TEXTS:**

Most course information, lectures, and readings will be posted on Blackboard at <http://blackboard.gmu.edu>. Additional readings will be handed out in class. There is no required textbook.

## ASSESSMENT OF COURSE REQUIREMENTS:

*Assignments may be e-mailed to instructor **no later than 3:30 p.m. on the date that they are due and instructor will print them, or bring a hard copy to class.** All assignments should be word-processed and are due at the start of class on the dates indicated.* If student is absent, the due date does not change, and student is responsible to make sure that all assignments are handed in on time. Consult with the instructor in advance if there is a problem. In fairness to students who make an effort to submit papers 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.) Please retain a copy of your assignments in addition to the one you submit. All assignments should reflect graduate-level spelling, syntax, and grammar.

**Note:** If you need course adaptations or accommodations because of a disability or if you have emergency medical information to share with me or need special arrangements, **please and/or make an appointment with me as soon as possible.**

## COURSE EXPECTATIONS:

- Students are expected to (a) attend all classes during the session, (b) arrive on time, (c) stay for the duration of the class time and (d) complete Blackboard discussion boards and other assignments. Excessive absences will result in missed lab assignments and decreased class participation points.
- During class time, computers are to be used only for work related to the class. Students found using the computer for purposes other than the assigned class activity will be asked to turn off their equipment and will not receive class participation points for that class session.
- Use APA guidelines for all course assignments. This website links to APA format guidelines. <http://www.psywww.com/resource/apacrib.htm>
- We will use person-first language in our class discussions and written assignments (and ideally in our professional practice). Please refer to “Guidelines for Non-Handicapping Language in APA Journals” <http://www.apastyle.org/disabilities.htm>

## COURSE ASSIGNMENTS

1. **Class and Lab Participation (20 points).** Attendance at all sessions is very important because many of the activities in class are planned in such a way that they cannot necessarily be recreated outside of the class session. Class and lab participation is demonstrated by participation and utilization of lab time in an effective and efficient manner. Students will be awarded two points each class session for successful completion of in class activities. Students who miss class will not have the opportunity to make up missed in-class assignments, and therefore, will not earn class participation points for that missed class session.
2. **Software Review (15 points).** Students will choose a piece of instructional software to review. A brief description of the software should precede a thorough review of the software and its possible application within a chosen environment. Late projects will be penalized. Please refer to the scoring rubric for additional information on this assignment. **(Due 9/27).** Students who wish to make corrections and resubmit their review for grading must turn in the corrected paper and *original scoring rubric no later than designated date (Due 10/4).*
3. **Technology Tools Assignment (15 points).** Students will select a broad category to research, describe, and analyze. A list of technology categories (e.g. word prediction, talking word processing) be provided by the instructor. Students will then select two specific technologies within their category (e.g. Co:Writer and textHelp Read and Write) as part of their analysis. In a 2-3 page paper, students should provide a description of the overall technology including its intended purpose, audience, and important features. Students then should provide a brief description of each specific technology they have selected along with a comparison of product similarities and differences. Finally the paper should include a recommendation for one of the specific technologies based on the needs of a real client or an invented scenario. Please note: it is

anticipated that students will use the Internet and/or product catalogs to obtain product information and descriptions, however students are expected to reference such information using proper APA format. Students should also submit a copy of this assignment to Blackboard for the instructor's records. **(Due 10/18)**

4. **Web Page Design (25 points):** Students will be responsible for designing their own accessible web page using *Lectora*. The web pages will be presented in class. Late projects will be penalized. Please refer to the scoring rubric for additional information on this assignment. **(Due 11/1)**
  
5. **Assistive/Instructional Technology Lesson (25 points):** Students will design a lesson using an instructional or assistive technology of their choice. The lessons will be presented in class. Late projects will be penalized. Please refer to the scoring rubric for additional information on this assignment. **(Due 11/15)**

#### **Grading Scale**

A = 95-100%; A- = 90-94; B = 85-89 %; B- = 80-84; C = 70-79%; F = <70%

#### **COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT STATEMENT OF EXPECTATIONS:**

All students abide by the following:

- Students are expected to exhibit professional behavior and dispositions. See <http://gse.gmu.edu> for a listing of these dispositions.
- Students must follow the guidelines of the University Honor Code. See [http://www.gmu.edu/catalog/apolicies/#TOC H12](http://www.gmu.edu/catalog/apolicies/#TOC_H12) for the full honor code.
  
- Students must agree to abide by the university policy for Responsible Use of Computing. See <http://mail.gmu.edu> and click on Responsible Use of Computing at the bottom of the screen.
- Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester. See [www.gmu.edu/student/drc](http://www.gmu.edu/student/drc) or call 703-993-2474 to access the DRC.

**TENTATIVE CLASS SCHEDULE AND ASSIGNMENT DUE DATES**

Session Number	Date	Class Activities	Assignments and Due Dates
1	9/13	Lecture and Lab: Introduction to AT; Software features and evaluation	
2	9/20	Lecture and Lab: Microsoft Accessibility; Technology tools for teachers	
3	9/27	Lecture and Lab: AT for students with learning disabilities – Reading and Writing tools	<i>Software Review due</i>
4	10/4	Lecture and Lab: AT for students with physical impairments or sensory impairments	
5	10/11	Lecture and Lab: Using the Internet for instruction	<i>(Resubmissions of Software Review due)</i>
6	10/18	Lecture and Lab: Designing web pages for content and accessibility; Software to create and post web pages; <i>Lectora</i> tutorial <b>Class will be at Hyton High IT lab, USB storage device</b>	<i>Technology Tools Assignment due</i> ; Student presentations
7	10/25	Lecture and Lab: Work on web pages; <b>Class will be at Hylton High IT lab, bring USB storage device</b>	
8	11/1	Lecture and Lab: Intellitools; Augmentative and alternative communication	<i>Instructional web page due</i> ; student presentations
9	11/8	Lab: Finish work; student presentations/ AT and the IEP	
10	11/15	Student Presentations	<i>Assistive/ Instructional Technology Lesson Plan due</i> ; Student presentations

## Assignments

### EDSE 517: Computer Applications for Special Populations Scoring Rubric for Software Review

#### Software Review Paper (15 points): Due on 9/27

Choose a piece of software that would be appropriate to use in your classroom to review; it should be a fairly recent version. Address the primary features of the software including accessibility and other topics addressed in class (content, user friendliness, adult management features, support materials, and value). The actual software review should be 1-2 pages that can be used as a reference for a potential software user. A copy of the software review template is on the CD given out on the first night of class. **Following the review should be a one-page reflection of your thoughts about the software, including pros and cons, from your perspective.** Late projects will be penalized.

**Exemplary paper (13-15 points):** *Appropriate software chosen, thorough and thoughtful review of software, including clear description of primary features (content, user friendliness, adult management features, support materials, value) and overall accessibility for use by people with disabilities. Graphic representing software included. Solid explanation of student's opinions of software, good writing style, free of mechanical or stylistic errors. Detailed, yet concise reflection indicating your thoughts about the software.*

**Adequate paper (10-12 points):** *Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, or minor writing style errors may be present.*

**Marginal paper (7-9 points):** *Overall acceptable paper, but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style, or design.*

**Inadequate paper (1-8 points):** *Paper with substantial problems in important areas such as writing, description of software, evaluation of software, overall thoughtfulness. Contains little or no information of value to special education practice.*

**Unacceptable/No paper (0 points):** *Paper with no value whatsoever relative to the assignment, or no paper turned in at all. May describe software of no value that was not approved for this assignment.*

Exemplary paper	Adequate paper	Marginal paper	Inadequate paper	Unacceptable/ No paper
13-15	10-12	7-9	1-8	0

## SOFTWARE REVIEW SCORING RUBRIC

NAME: \_\_\_\_\_

	Points	Comments
Accessibility (1 pt)		
Description of primary Features:		
1. Content (2 pts)		
2. User friendliness (2 pts)		
3. Adult management features (2 pts)		
4. Support materials (2 pts)		
5. Value (2 pts)		
Graphic representing software (1 pt)		
Author's opinion of software clearly stated (3 pts)		
<b>Total Points (out of 15 possible)</b>		

**Grading Scale:**

Exemplary paper	Adequate paper	Marginal paper	Inadequate paper	Unacceptable/ No paper
13-15	10-12	7-9	1-8	0

**Assignments**  
**EDSE 517: Computer Applications for Special Populations**  
**Scoring Rubric for Technology Tools Assignment**

**Technology Tools Assignment (15 points): Due on 10/18.**

Students will select a broad category to research, describe, and analyze. A list of technology categories (e.g. word prediction, talking word processing) be provided by the instructor. Students will then select two specific technologies within their category (e.g. Co:Writer and textHelp Read and Write) as part of their analysis. In a 2-3 page paper, students should provide a description of the overall technology including its intended purpose, audience, and important features. Students then should provide a brief description of each specific technology they have selected along with a comparison of product similarities and differences. Finally the paper should include a recommendation for one of the specific technologies based on the needs of a real client or an invented scenario.

Please note: it is anticipated that students will use the Internet and/or product catalogs to obtain product information and descriptions, however students are expected to reference such information using proper APA format. Students should also submit a copy of this assignment to Blackboard for the instructor's records.

**Exemplary paper (13-15 points):** *Appropriate software chosen, clear description of each piece of software including intended purpose, audience, and important features. Description of similarities and differences of the software. Student recommendation of one piece of software based upon needs of a real client or an invented scenario (include description of real client or invented scenario).*

**Adequate paper (10-12 points):** *Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, or minor writing style errors may be present.*

**Marginal paper (7-9 points):** *Overall acceptable paper, but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style, or design.*

**Inadequate paper (1-6 points):** *Paper with substantial problems in important areas such as writing, description of software, comparison of software, or overall thoughtfulness. Contains little or no information of value to special education practice.*

**Unacceptable/No paper (0 points):** *Paper with no value whatsoever relative to the assignment, or not paper turned in at all. May describe software of no value that was not approved for this assignment.*

Exemplary paper	Adequate paper	Marginal paper	Inadequate paper	Unacceptable/no paper
13-15	10-12	7-9	1-6	0

## TECHNOLOGY TOOLS SCORING RUBRIC

NAME: \_\_\_\_\_

	Points	Comments
Appropriateness of software chosen (3 points)		
Description of overall technology:  Intended purpose: 3 points  Audience: 2 points  Important features: 2 points  Total possible: 6 points		
Brief description of each piece of software 3 points		
Compare/contrast the two pieces of software 3 points		
Recommendation of one piece of software to meet specific needs of a student or invented scenario. 3 points		
Total Number of Points (15 possible points)		

### Grading Scale:

Exemplary tutorial	Adequate tutorial	Marginal tutorial	Inadequate tutorial	Unacceptable/ No tutorial
16-20	11-15	6-10	1-5	0

## Assignments

### EDSE 517: Computer Applications for Special Populations Scoring Rubric for Web Page

#### Web Page Design (25 points): Due on 11/1

For this project, students will design an instructional a web page and **save it a USB storage device**. Students will be using *Lectrora* during lecture/lab. A tutorial on *Lectora* will be provided in class. The web page may be about **any topic of instruction**, however some suggestions for this assignment include:

- Homework section for your class to visit to remind them of their assignments
- Review of daily/weekly activities for parents or students to visit
- Information to introduce/review an instructional unit
- Family page that provides updates and information to family members

#### With regard to accessibility, each web page should include:

Alt tags (“pop up text descriptors”) on graphics and images

Sans serif font

Contrast and other visual considerations

Table formatting (if applicable)

Readability (sufficient white space, etc.)

#### With regard to creativity, each web page should be:

Inviting and easy to look at

Contain at least one image or graphic

Contain at least one paragraph of written information

#### With regard to content, each web page should contain:

Purpose of the site and site content

Information to be used by fellow employees, students, or parents regarding school topics

Language should be easily readable and understandable

Should have a “last updated” section and contact information (“foot note” on page)

**Exemplary web page (20-25 points):** *Completely accessible web page that is easy to read and inviting to look at. The site meets the accessibility, creativity, and content criteria listed above. Good writing style, free of mechanical or stylistic errors.*

**Adequate web page (14-19 points):** *Good overall web page, lacking in one or two of the criteria for an exemplary web page. Not entirely reflective or thoughtful, or minor writing style errors may be present.*

**Marginal web page (9-13 points):** *Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with accessibility features, writing style, or design.*

**Inadequate web page (1-8 points):** *Web page with substantial problems in important areas such as writing, accessibility, and overall thoughtfulness. Contains little or no information of value to special education practice.*

**Unacceptable/No web page (0 points):** *Web page with no value whatsoever relative to the assignment, or no web page turned in at all.*

Exemplary web page	Adequate web page	Marginal web page	Inadequate web page	Unacceptable/ No web page
20-25	14-19	9-13	1-8	0

### WEB PAGE SCORING RUBRIC

NAME: \_\_\_\_\_

	Points	Comments
Appropriateness of topic of instruction for web page 5 points		
Alt tags (pop-up text descriptions) on all graphics and images 3 points		
Sans serif font 2 points		
Contrast and other visual considerations 2 points		
Readability (sufficient white space, etc.) 2 points		
Inviting and easy to look at 1 points		
Contains at least one image or graphic 2 points		
Contains at least one paragraph of written information 2 points		
Statement of purpose of web page 2 points		
Contains information to be used by fellow employees, students or parents regarding school topics 2 points		
Language is easy to read and understand 1 points		
Includes "last updated" section and contact information as "foot note" 1 points		
Total (25 possible)		

## Assignments

### EDSE 517: Computer Applications for Special Populations Scoring Rubric for Assistive/Instructional Technology Lesson

#### Assistive/Instructional Technology Lesson (25 points): Due on 11/15

Students will **design a lesson** using an instructional or assistive technology of their choice. Some examples of projects include:

Instructional web pages on using *Lectora*

Creating a math lesson using *Hyperstudio*

Creating a history lesson using *Powerpoint*

Creating a set of communication boards using *Boardmaker*

Creating a science lesson utilizing the digital microscope, digital camera, and *Powerpoint*

Adapting a book using *Intellipics* and *Intellikeys*

Creating a language arts lesson using *Inspiration* or *Kidspiration*

Creating a math lesson using *Microsoft Excel*

\*\*\*(*PowerPoint* projects must be interactive, not just a series of static slides.)

Include a **lesson plan** that provides a brief overview, in paragraph format, of the following points:

**Lesson Topic and Goal**

**Content Area and Grade Level**

**Student Activities and Materials** required for lesson

**Lesson Modifications** for students with special needs, if the lesson is not specifically designed for students with special needs. What types of software or hardware would support the students in doing this lesson?

Be specific as to what special needs you are addressing.

**Students will present their lessons to the class on the last night. Additionally, students will submit a one-page reflection about their thoughts while creating the lesson.**

**Exemplary lesson (20-25 points):** *Appropriate assistive/instructional technology chosen, use of advanced features of the software/hardware for lesson creation, thoughtful and creative method for presenting the lesson content material within the software/hardware; consideration of students with special needs. Detailed, yet concise reflection indicating the process and thoughts experienced while creating the lesson.*

**Adequate lesson (14-19 points):** *Good overall lesson, lacking in one or two of the criteria for an exemplary lesson. Uses mostly basic software features. Reflection may be weak in areas such as details or reflective analysis of experiences.*

**Marginal lesson (9-13 points):** *Overall, acceptable but with one or more significant problems, no advanced features of software/hardware used. Contains some useful information, but may have substantial problems with presentation, design, or explanation. Reflection may be weak in areas of description or reflective analysis.*

**Inadequate lesson (1-8 points):** *Lesson with substantial problems in important areas such as content and ways in which software/hardware is used. Contains little or no information of value to special education practice. Reflection does not document thoughts or reflect the process of creating the lesson.*

**Unacceptable/No lesson (0 points):** *Lesson with no value whatsoever relative to the assignment, or no lesson turned in at all. May describe technology of no value that was not approved for this assignment.*

Exemplary lesson	Adequate lesson	Marginal lesson	Inadequate lesson	Unacceptable/ No lesson
20-25	14-19	9-13	1-8	0

The final project will be returned to you at your base school through the interoffice courier or mailed to your home if you are not employed by Prince William County Schools.

**ASSISTIVE/INSTRUCTIONAL TECHNOLOGY LESSON PLAN SCORING RUBRIC**

**NAME:** \_\_\_\_\_

	Points	Comments
Appropriateness of assistive/instructional technology used (4 points)		
Use of advanced features of the software/hardware for lesson creation (2 points)		
Lesson Topic		
Goal		
Content Area		
Grade Level		
Student Activities		
Materials Needed		
(1 points each= 6) (total)		
Thoughtful and creative method for presenting the lesson content material within the software/hardware (5 points)		
Detailed but concise reflection indicating the process and thoughts experienced while creating the lesson (5 points)		
Consideration of students with special needs (be specific as to needs being addressed) (3 points)		
Total Number of Points (25 possible points)		