

SPED 4040 & 4040 L  
Special Education Technology

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### Overview

The purpose of this course is to 1) improve individual skills with technology, 2) increase knowledge and skills related to using technology to support learners with disabilities 3) increase knowledge related to the law and assistive technology. This will be accomplished via reading, hands on tutorials, group activities, group presentations, lecture, and discussion.

This course allows participants to gain information and skills related to the uses of technology for helping people with disabilities become as independent as possible. Specifically, this course is designed to assist participants in: developing strategies for integrating computer-based instruction (CBI); understanding the integration of instructional media; and incorporating assistive and augmentative devices as well as low end technologies for assisting learners with disabilities. During this course you will gain skills related to the standards for teachers as outlined by the Council for Exceptional Children (CEC) and advanced skills as outlined by the International Society for Technology in Education (ISTE). In addition, as a graduate course, we will focus heavily on the current research literature.

### Pre-requisite skills

Everyone enters this course with different levels of skill in relation to technology. The mechanics of how to use productivity software (e.g. MS Word, PowerPoint etc) are not the focus of this course but familiarity and the ability to use these applications will be required for you to succeed in this course (as well as your graduate program and your career as a teacher). Many of you are already proficient with these software applications, which is important because they are very useful for teachers. To make sure that everyone begins with at least the most basic skills with these applications and we can therefore proceed through many of the other aspects of the course quickly,

Taking class time to teach PowerPoint would not only frustrate those who are skilled with the software, it would also frustrate those who are new to the software therefore we are going to take advantage of something that UGA offers to all faculty, staff and students.

The University of Georgia offers on-line training for most Microsoft office tools through *element k*. These are usually 3 to 3.5 hr self paced lessons on how to use a piece of software. If you are unfamiliar with Word or Power Point, I recommend you at least complete their basic courses on these programs. Log in to your myuga account and click on *element k*. You will be able to find that you need from there.

So, how will I be able to estimate that everyone has at least the most basic skills in these two programs? We will do a simple skills evaluation on the first day of class just to see where everyone is at.

### Course Competencies

The competencies that drive this course come from two professional organizations. The Council for Exceptional Children (CEC) and the International Society for Technology in Education (ISTE) have developed competencies that are relevant to your basic knowledge as a beginning teacher. CEC competencies relate directly to teaching students with disabilities. The ITSE standards were designed for general educators, however, they are critical for all teachers and they have modified them to account for work with students who have disabilities. Some of the competencies below are keyed to the CEC international standards for special education teachers. Other competencies are keyed to the six goal areas identified by ITSE: (I.) Technology operations and concepts; (II.) Planning and Designing Learning Environments and Experiences; (III.) Teaching, Learning, and the curriculum; (IV.) Assessment and Evaluation; (V.) Productivity and Professional Practice; (VI.) Social, Ethical, Legal, and Human Issues.

1. Design and evaluate the quality of plans that incorporate the use of technology, including adaptive and assistive technology for young children with special needs, and school aged students who have mild/moderate mental retardation, learning disabilities, and behavior disorders. (CEC – IGC, 4S21, EC 5S2, BD 4S5, MR 4K2)
2. Design and evaluate the quality of plans that incorporate the use of technology, including adaptive and assistive technology for young children with special needs, and school aged students who have severe and/or multiple disabilities. (CEC – IGC, 5K3, EC 5S2, BD 4S5, MR 4K2)

3. Articulate and analyze strategies for integrating alternative and augmentative communication systems into the curriculum for students with communication difficulties. (CEC - IGC, 4S18, 4S19, 6K4, MR 4S7)
4. Demonstrate appropriate use of technology including adaptive and assistive technology (CEC- EC 4S9, ITSE - VI)
5. Design and evaluate the quality of plans that incorporate the use of technology, including adaptive and assistive technology for individuals with physical disabilities and for those with sensory deficits (CEC-IGC, 3S4, PH – 4K2, VI – 4K1, 4K2, DH – 4K3).
6. Demonstrate proficiency in the use of common input and output devices including assistive devices for students who have disabilities; solve routine hardware and software problems; and make informed choices about technology systems, resources, and services. (ITSE - I)
7. Use technology tools and information resources to increase productivity, promote creativity, and facilitate academic learning as well as to use resources to facilitate higher order and complex thinking skills, including problem solving, critical thinking, informed decision-making, knowledge construction, and creativity. (ITSE - I, III, IV, V)
8. Use technology to locate, evaluate, and collect information from a variety of sources on topics related to improving teaching of students who have disabilities and to use technology in the development of strategies for solving problems in the real world. (ITSE – I, III, IV, V)
9. Evaluate and select new information resources and technological innovations based on their appropriateness for teaching students with disabilities. (ITSE - I, III, IV, V)
10. Demonstrate an understanding of the legal, ethical, cultural, and societal issues related to technology use with individuals who have disabilities and their families and be able to discuss diversity issues related to electronic media. (ITSE – I, VI)
11. Identify the benefits of technology to maximize student learning and facilitate higher order thinking skills in students who have mild to moderate disabilities. (ITSE - I, III)
12. Differentiate between appropriate and inappropriate uses of technology for teaching and learning while using electronic resources to design and implement learning activities. (ITSE - II, III, V, VI)
13. Identify technology resources available in schools and analyze how accessibility to those resources affects planning for instruction and the inclusion of students who have disabilities. (ITSE - I, II)
14. Identify, select, and use hardware and software technology resources specially designed for use by PK-12 students to meet specific teaching and learning objectives and determine how these resources can be modified to meet the needs of students with disabilities. (ITSE - I, II)
15. Identify specific technology applications and resources that maximize student learning, address learner needs, and affirm diversity. (ITSE - III, VI)
16. Design and teach technology-enriched learning activities that connect content standards with student technology standards and meet the diverse needs of students who have disabilities. (ITSE - II, III, IV, VI)
17. Develop a portfolio of technology-based products from coursework, including the related assessment tools. (ITSE - IV, V)
18. Apply online and other technology resources to support problem solving and related decision-making for maximizing student learning. (ITSE - III, V)
19. Participate in online professional collaborations with peers and experts relating to topics in the field of special education. (ITSE - III, V)
20. Identify issues related to equitable access to technology in school, community, and home environments and link these issues to problems faced by a diverse group of families who have children with disabilities. (ITSE - VI)

## Evaluation Measures

Evaluation	% of Grade	Points
1. Quizzes	20%	5 x 10pts
2. AT Tool Mastery	30%	3 x 25pts
3. Lesson Plans	30%	2 x 37.5 pts
4. Final Exam	20%	50
Total	100%	250 pts

A= 90-100% of total points

B=80-89%

C=70-79%

D=60-69%

F<60%

**Quizzes:** These will be given in class, on the computer. They will be given on the Tuesday of the week that they are listed. They will cover any and all material that has been covered in class up to that week (not including what we are going to cover the week of the quiz). So, for example, the quiz listed on 1/24 covers the first 2 weeks of class. Quizzes will include multiple choice, fill in the blank, short answer etc. In addition, you should expect that some of these quizzes will ask you to perform one or more of the skills we have covered in class and have you email the result to me.

**AT Tool Mastery:** It would be foolish for me to think that you will walk away from this class having mastered all the tech tools that we have for you to play with. I know I am not even close to mastery on many of them. Further the tools are always advancing and therefore you have to continually update your skills relative to the tools. This assignment though will require you to learn a tool and the basic components of that tool. You will also compare one tool to other similar tools and provide recommendations for use. The basic outline for this assignment is included at the end of the syllabus. You will be required to learn 1 Reading Tool from a selected list, 1 Writing Tool, and either IntelliPics Studio, HyperStudio, or a combination of a communication device and a piece of instructional software targeted at students working on an adapted curriculum. We will talk about many of these tools in class. We may do work on some of them but your demonstration of mastery will be at a much higher level and require individual time during lab or outside of class to learn all of the details of the program. To demonstrate mastery you will need to 1) describe the technical features of the tool adequately so that a general education teacher, parent or other school staff member can understand how the tool would assist a student. 2) describe what makes the tool you are writing about different than similar tools in the same class 3) Describe how the tool would be integrated into the student's curriculum (with specific examples) 4) describe what kinds of training the student and teachers would need (approx. amount and intensity) 5) describe how you would measure student success with the tool (i.e. not whether they achieve their academic goals necessarily but how you will decide if they are successful with the tool). This is the kind of information that will or should drive the decision to purchase/use a particular technology or to keep looking for other options.

**Lesson Plans:** This is an activity that will require you to take previous lesson plans and identify places where the lesson plan can be enhanced with the idea of Universal Design and where technology can help support the instruction of the lesson. You will use a lesson plan that you have already completed for SPED 4440. You will upload these to LiveText and provide me access to the lesson plan. It can be uploaded as a word document attachment, it just has to be up there. We will then have to meet for about 10min prior to beginning each lesson so we can jointly look over the plan and make sure that the basic structures are acceptable. You will then complete a sort of companion document to the lesson plan where by you identify places to change the lesson plan to make the topic more universally accessible with (and without technology). You will have to explain how your changes make the plan more accessible to learners. You will also have to identify instructional software and other assistive technology supports that can enhance the lesson. For each of these items identified, you will provide a rationale for the change/enhancement. (more instructions and examples will be provided on 1/24)

**Final exam:** Comprehensive.

It is expected that all readings are completed by the first class for the week. This means that you should come to class on Tuesday prepared to discuss anything and everything assigned for that week. Weeks are listed by the Tuesday date for that week. Most of the readings will come from Univ. of Buffalo's assistive technology website. This link <http://atto.buffalo.edu/registered/ATBasics.php> of can serve as a kind of Table of Contents for the "text" part what we will read. Readings from this site will be referred to as ATTO and then followed by the table of content heading you need to read. The organization is fairly clean and easy. When assigned to read a link from the table of contents, I will expect that you have read everything in the center white field and link to all of the links on the left hand navigation bar (you can think of these as pages within a chapter). I encourage you to also look at the links that appear on the right though you are not going to be expected to have read that material. For readings that have a \*\* you must first be logged in to Galileo and have ERIC (EBSCO) open. Additional readings may be assigned as needed.

	Week	Readings	Lab time	Due
Overview and Law	1/10	<ul style="list-style-type: none"> <li>• ATTO: Intro to Assistive Tech</li> <li>• ATTO: Federal Laws</li> <li>• ATTO: Assessing Student Need</li> <li>• Law and Tech article on WebCT</li> </ul>	Basic Skills Pre-Test	
	1/17	<ul style="list-style-type: none"> <li>• ATTO Universal Design</li> <li>• **<a href="http://search.epnet.com/direct.asp?an=7387363&amp;db=aph">http://search.epnet.com/direct.asp?an=7387363&amp;db=aph</a></li> <li>• Key Concepts in AT assessment on WebCT</li> </ul>	OS Modifications	
Technology and Reading	1/24	<ul style="list-style-type: none"> <li>• ATTO: Students with learning Disabilities</li> <li>• E-Book article on WebCT</li> </ul>	E-Books, Text-Readers, Literacy Instruction software, pocket dictionaries, the reading pen	Quiz 1
	1/31	<ul style="list-style-type: none"> <li>• ATTO: Using the computer for reading</li> <li>• Assessing AT and Reading article on WebCT</li> </ul>		
	2/7	<ul style="list-style-type: none"> <li>• **<a href="http://search.epnet.com/direct.asp?an=5545743&amp;db=aph">http://search.epnet.com/direct.asp?an=5545743&amp;db=aph</a></li> </ul>		AT Tool Mastery 1
Technology and Writing	2/14	<ul style="list-style-type: none"> <li>• ATTO Using the computer for writing</li> <li>• Written language article on WebCT</li> <li>• Assessing AT and Writing article on WebCT</li> </ul>	Co:Writer & Write:OutLoud, The SOLO Suite, Inspiration, Draft:Builder	Quiz 2
	2/21	<ul style="list-style-type: none"> <li>• **<a href="http://search.epnet.com/direct.asp?an=5995649&amp;db=aph">http://search.epnet.com/direct.asp?an=5995649&amp;db=aph</a></li> <li>• **<a href="http://search.epnet.com/direct.asp?an=EJ650462&amp;db=eric">http://search.epnet.com/direct.asp?an=EJ650462&amp;db=eric</a></li> </ul>		Lesson Plan 1
Technology and Math	2/28	<ul style="list-style-type: none"> <li>• ATTO: Using the computer for math</li> <li>• Assessing Math and AT article on WebCT</li> </ul>	Instructional Software, Excel	Quiz 3
	3/7	<ul style="list-style-type: none"> <li>• Math Article 1 on WebCT</li> <li>• Math Article 2 on WebCt</li> </ul>		
	3/14	<ul style="list-style-type: none"> <li>• <b>Spring Break</b></li> </ul>		
Technology for Content areas	3/21	<ul style="list-style-type: none"> <li>• ** <a href="http://search.epnet.com/direct.asp?an=7685724&amp;db=aph">http://search.epnet.com/direct.asp?an=7685724&amp;db=aph</a></li> <li>• De-Fragmenting the Curriculum article on WEBCT</li> </ul>	Instructional software, simulations	AT Tool Mastery 2
	3/28	<ul style="list-style-type: none"> <li>• **<a href="http://search.epnet.com/direct.asp?an=5545742&amp;db=aph">http://search.epnet.com/direct.asp?an=5545742&amp;db=aph</a></li> </ul>		Lesson Plan 2
Tech for Communication and Social Skills	4/4	<ul style="list-style-type: none"> <li>• ATTO: Communication needs</li> <li>• <a href="http://jset.unlv.edu/15.3/asseds/ashton.html">http://jset.unlv.edu/15.3/asseds/ashton.html</a></li> <li>• <a href="http://jset.unlv.edu/17.3/asseds/ashton.html">http://jset.unlv.edu/17.3/asseds/ashton.html</a></li> </ul>	AAC Devices, Instructional software	Quiz 4
Tech and Sensory Impairments	4/11	<ul style="list-style-type: none"> <li>• ATTO: AT for blinds students</li> <li>• ATTO: Students with low vision</li> <li>• **<a href="http://search.epnet.com/direct.asp?an=7685806&amp;db=aph">http://search.epnet.com/direct.asp?an=7685806&amp;db=aph</a></li> </ul>	JAWS,	AT Mastery 3
Tech and Severe Disabilities	4/18	<ul style="list-style-type: none"> <li>• ATTO: Switch users</li> </ul>	Instructional software, switch accessibility	Quiz 5
Project Showcase	4/25	Presentation of Group Projects		

### **Class Participation and Group Interactions:**

I am embarrassed to have to include this in a University syllabus however I find I must to protect the learning opportunities for everyone. Unprofessional behavior in class may impact your overall course grade. It is important to me that you respect your peers as they try to learn. Unprofessional behavior may impede their learning and is therefore unacceptable. I expect everyone to come to class prepared and to participate however if you opt not to, that is fine, no penalty. If your behavior is disruptive to the learning environment however, at my discretion I will deduct points from your total points earned for the course.

### **Academic Honesty**

*"I will be academically honest in all of my academic work  
and will not tolerate academic dishonesty of others."*

— UGA Student Honor Code

All students are responsible for maintaining the highest standards of honesty and integrity in every phase of their academic careers. The penalties for academic dishonesty are severe and ignorance is not an acceptable defense

Plagiarism is a common phenomenon. To assist you in understanding what plagiarism is, and to indicate before hand how plagiarism will be viewed in this course, the following definition and examples are provided. The next four paragraphs describe the definition of plagiarism.

All academic work, written or otherwise, submitted by a student to his instructor or other academic supervisor, is expected to be the result of his own thought, research, or self-expression. In any case in which a student feels unsure about a question of plagiarism involving his work, he is obligated to consult his instructor on the matter before submitting it.

When a student submits work purporting to be his own, but which in any way borrows ideas, organization, working, or anything else from another source without appropriate acknowledgment of the fact, the student is guilty of plagiarism.

Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file or whatever. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, s/he must carefully acknowledge exactly what, where and how s/he has employed them. If s/he uses the words of someone else, s/he must put quotation marks around the passage in question and add in appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiarism. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain.

The following statements describe the Instructor's interpretation of this definition.

1. If a student copies his/her entire paper from any course, published or unpublished, it would be considered plagiarism unless the paper included quotation marks around it - in which case it would be viewed as inappropriate for submission. Likewise if major portions (sentences or paragraphs) are copies from another source without appropriate citation, it is considered plagiarism.
2. Since the assignments for this course require you to read a variety of sources and synthesize them into meaningful statements about a topic, you must be clear on how to cite those courses; use the Publication Manual for the American Psychological Association (third edition).

Examples of plagiarized and non-plagiarized statements are included below.

*Original Source Says:* "Although handicapping conditions are usually construed as cognitive, sensory, or motor, a fundamental deficit across almost every disability is social incompetence" (Bailey & Simeonsson, 1985, p. 20).

Plagiarized Example: Although handicapping conditions are usually construed as cognitive, sensory, or motor, a fundamental deficit across almost every disability is social incompetence.

- This statement would be considered plagiarism because it is a direct quotation, and is not cited as a direct quotation.

*Non-Plagiarized Example:* "Although handicapping conditions are usually construed as cognitive, sensory, or motor, a fundamental deficit across almost every disability is social incompetence" (Bailey & Simeonsson, 1985, p. 20).

- This statement is not an example of plagiarism because the student indicated the source, and indicated "exactly what, where and how he has employed" it (Student Rights and Responsibilities, p. 35).

*Plagiarized Example:* A fundamental deficit across almost every disability is social incompetence (Bailey & Simeonsson, 1985).

- This statement would be considered plagiarism because it is a quotation of another source, but is not acknowledged as a quotation. According to the APA manual, the reader is lead to interpret this statement as the words of the writer and the idea of the source that is cited. To acknowledge it as a quotation, the student must put quotation marks around it.

*Non-Plagiarized Example:* Social incompetence may be an important deficit in other handicapping conditions (Bailey & Simeonsson, 1985).

- This statement would not be considered plagiarism because the source from which the idea is taken is cited and the student put the idea in his/her own words.

*Plagiarized Example:* Handicapping conditions are usually categorizes as cognitive, sensory, or motor, but a major deficit across almost every disability is social incompetence (Bailey & Simeonsson, 1985).

A general deficit across almost every disability is social incompetence (Bailey & Simeonsson, 1985).

- These statements would be considered plagiarism because they involve "Making simple changes while leaving the organization, content, and phraseology intact" (Student Rights and Responsibilities, p. 35).

The instructor's responsibilities are also described in the *Student Rights and Responsibilities handbook*. The indented statements below are taken directly from the handbook.

An Instructor who has evidence that a student has committed an academic offense should first arrange a personal conference with the student and do the following: present the evidence with respect to the offense; give the student an opportunity to state his/her case; and make known to the student the charges, if any, and the possible sanctions which may be imposed or recommended. If the student is not reasonably available for or fails to attend such a conference, the instructor shall proceed to inform the student of the nature of the evidence, charges and possible sanctions by certified mail.

This instructor may then take one or more of the following actions.

- assign any grade on a paper or examination related to the offense;
- assign any grade for the course in which the offense occurred;
- recommend a more severe sanction that the instructor may alone impose, by forwarding through the department chairman a written report of the offense to the dean of the student's college. Notice of action taken under b. and/or c. must be sent by the instructor, within 5 working days after the accusation is made, to the student by certified mail with copies to the department chairman and the dean of the student's college. (Student Rights and Responsibilities, pp. 36-37).

Given these options, the Instructor of this course will engage in the following actions if plagiarism occurs. First, a personal conference will be held with the student as described in the first paragraph. Second, the instructor assign a grade of "E" for the course. Third, the student will be told that they should seek the counsel of the Academic Ombudsman. Fourth, the student, dean, and department chairperson as required in point c. will be notified in writing. If the student is a graduate student, the director of graduate studies will also be notified. The instructor views plagiarism as a serious indication that the student is not displaying the professional qualities necessary for working in the field of education.

If you have further questions about plagiarism at any point in the course please ask the Instructor. Further, if you have questions about whether you are engaging in plagiarism, please bring the original source and your product by and ask the instructor whether it appears to be

plagiarism. Obviously this should be done prior to submitting the product.

### **Other Important Info**

Please note that you receive same grade for the one-hour lab, SPED 4040L as you do for the course.

The University of Georgia seeks to promote and ensure academic honesty and personal integrity among students and other members of the University Community. A policy on academic honesty has been developed to serve these goals. All members of the academic community are responsible for knowing the policy and procedures on academic honesty. Please see the following web site for complete details. (<http://www.uga.edu/vpaa/polproc/ahpol/main.html>)

The Department of Special Education supports equal access and support for all individuals with disabilities. We also support the policies and procedures of the University of Georgia relating to students who have disabilities. Disability Services, a part of the Office of the Vice President of Student Affairs, provides academic and support services to qualified students with disabilities to ensure equal access to all programs and activities at the University of Georgia. The mission of Disability Services is to create an accessible academic, social and physical environment for students with disabilities at UGA

If you have a documented disability and require specific instructional adaptations you must notify me prior to the beginning of the second week of class. Your notification must be accompanied by written documentation from the UGA office of Disability Services or the Regents Center for Learning Disabilities.

## APPENDIX A

### Skill Evaluation

#### Word:

- 1) Create a new document
- 2) Set the margins to 1 inch all the way around
- 3) Type a paragraph of text about yourself (special ed interests, where you teach/have taught etc---the content is not important but will let me get to know you).
  - a. in 12 pt font (Times New Roman)
  - b. double spaced (not by hitting return twice but by setting double space as the line spacing option.
  - c. Bold face one word
  - d. Italicize another word
  - e. Put the first word in Ariel font (words are sometimes put in "sans serif fonts like Arial when they are used as figure captions)
- 4) Insert a bulleted list of the special ed course you have taken (if you have not taken any, insert a bulleted list of the last 4 or 5 courses you took in your undergrad major)
- 5) Insert a table with 2 columns and five rows
  - a. In the first column insert the following information in successive rows: "Advisor," "Undergrad major", "Teaching experience", "High/Low Incidence" and "Age range"
  - b. In the second column, type in the information to "answer" the first column...name of your advisor, your undergrad degree (and from where), whether you are a high incidence (LD, BD, MID) or low incidence (moderate to severe ID, autism) person, and what age range you teach or intend to teach.
- 6) Name this file: Lastname\_Firstname\_word.doc (fill in your info where appropriate)

#### PowerPoint

- 1) Create a new presentation as an introduction to a current event
- 2) Create 4 slides
  - a. One title slide
  - b. 1 bulleted list
  - c. One with a title and an open text box (can be formatted as a bulleted if you like)
  - d. 1 slide with a title and image
- 3) Go to CNN home page
- 4) Find an interesting headline
  - a. Put that headline as the title on the first slide
  - b. On the next slide title it something interesting and make 3 bulleted statements about the article
  - c. On the next slide, title it "Hot Link" and copy and paste the URL as a hot link into the slide (i.e. if I click on it, it should take me to the article)
  - d. On the next slide, copy and paste an image from the story
- 5) Save as Lastname\_firstname\_powerpoint.ppt

Email both of these as attachments to me [kayres@uga.edu](mailto:kayres@uga.edu) and do so from your UGA account.

## APPENDIX B

### Class Project (ungraded)

A good portion of our lab time will be dedicated to a group project. The primary project will be focused on developing a unit of instruction related to simple machines at either the pre-school, 4<sup>th</sup>, 8<sup>th</sup>, or high school level (this is where simple machines appear in the Georgia QCC/LPS). While the actual topic of the unit is not relevant, simple machines will provide us an opportunity to practice with several technology tools: video, Power Point, Excel, Inspiration etc. We will work as a groups to design and develop this project during class time. This will truly offer an opportunity for you to hone your technology skills. While the project is upgraded, I hope that we can all work on this in an earnest effort to learn and to develop something of high quality. The simple machine project will have to include:

1. Specific learning objectives.
2. An overall lesson plan marking the integration of different technologies and sequence of lessons.
3. Brief lesson plans covering the approximately 2 weeks it will take to teach this unit. Including planned lab type activities and or technology activities for the students.
4. Some sort of introductory "anchor" to provide students with context for the entire lesson (might be some sort of on-going story line like Jasper Woodbury).
5. A series of power point presentations on the simple machines and the measurement of mechanical advantage that a teacher might use in presenting the material
6. A series of powerpoint "review" slides that students can use independently to review material. This might be built into a quiz format, a simple series of review slides or even integrated into part of a larger theme. This will need to include hyperlinks to a glossary of key terms—this will be demonstrated and practiced in class.
7. Excel will be integrated into this unit. The most likely way to do this is to provide it for students as a tool to check equations, graph differences in mechanical advantage offered by different simple (and complex) machines.
8. Graphic organizers in Inspiration to provide organization for the unit.
9. Video will be integrated into the Power Point based pieces to help provide context (e.g. video of someone pushing something up an inclined plane versus lifting it straight up on to the loading dock or someone using a wheel barrel to move a load—combining a wheel and a lever to increase the mechanical advantage). You will include video you find on line as well as video that you create.

APPENDIX C

AT Tool Mastery

	Ideal/Ready to Teach (5pts)	Almost ready (4pts)	Needs More Work (3pts)	Needs Significantly More Work (2-0pts)
Technical Features	Clearly describes the instructional format or arrangement of the materials (i.e. how student interacts with it and what it does when student does things correctly and incorrectly)	Describes most features and provides good information about how the student and technology interact. May need more detail to be	Shows some knowledge of the tool and some capabilities. May be neglecting some features. May or may not provide enough detail about how the student interacts with the tool.	Shows cursory knowledge of the tool and does not provide enough information about how the student/technology interaction.
Differences of this tool	Suggests several related alternative technologies/programs and demonstrates clear knowledge of their similarities and differences. Clearly identifies the strengths and weakness of the target program relative to its competitors.	Considers some other technologies and shows evidence of some differences and similarities. Identifies the relative strengths and weakness of target program.	Reviews at least two other technology and or provides a cursory comparison of technologies.	Provides limited and cursory information about other related technology tools and does not offer sufficient information to distinguish the target technology from competitors.
How well integrated	Clearly identifies appropriate times (topics, classes etc) when technology could and should be used. Provides good examples. As well identifies implementation barriers relative to the use of technology.	Identifies some aspects of curriculum or coursework where the target technology would be appropriate. Provides some examples	Identifies a few areas where this technology could be used but does not fully address all possible appropriate uses. Provides weak examples.	Does a cursory job of providing information and examples for how technology could be integrated. Provides some examples that may not be workable.
Training needed	Clearly identifies the level of student, teacher (and when appropriate, parent) training that is needed in terms of length of time, detail etc. Also considers who or what type of person would do the training (e.g. teacher, school tech person etc).	Identifies some aspects of training required for the student and teacher. May lack some detail related to duration, intensity, and who could deliver training.	Provides some information about some of the required training. Lacks detail concerning the intensity, duration and qualifications of the person who could deliver the training.	Omits vital information about required training for any player. Lacks sufficient detail to fully understand the scope of what would be required.
Measuring success	Provides clear, observable, measurable means to determine if the student is being successful at using the technology and if the technology is benefiting them. Provides some information in regard to changes or alterations that might be needed if the technology is not advanced enough for the student and if the technology is too advanced for the student.	Provides some measurable ways to determine student success with the technology and some information about possible changes in the technology plan if the technology is not the right fit for the student.	Method of evaluation provides limited measurable means to judge student success with a technology. Little or no information about possible alterations in the technology plan if the technology is not the right fit for the student.	Method of evaluation is not measurable. No information about possible alterations in the technology plan if the technology is not the right fit for the student.

APPENDIX D

UDL Lesson Plans

	Ideal/Ready to Teach (5pts)	Almost ready (4pts)	Needs More Work (3pts)	Needs Significantly More Work (2-0pts)
Overall Flow	Detailed, well organized lesson. Clearly stated purpose, objectives and activities. Could easily be implemented by others knowledgeable of the subject. Technology integration is clear and complimentary to overall goals	Clear lesson plan. Technology integration is logical and will meet the needs of diverse learners.	Plans are difficult to follow the use of technology/rationale needs more detail.	Unclear plans and illogical/superfluous use of technology. Difficult to follow and understand purpose of technology.
Technology to Support Reading	Plans provide for multiple ways for non-readers and low level readers to access information. Provides means of assisting with comprehension and organizing as well as with decoding. Provides examples.	Plans for multiple ways for non readers and low readers to access information. My need more attention to implementation and how tech may support comprehension, organization or decoding.	Provides some ideas for supporting low level/ non readers. Does not consider full range of reading needs.	Omits obvious technology supports for low level readers. Does not consider full range of reading needs.
Meeting multiple modalities	Provides ideas and examples of instructional materials designed to support the visual and auditory learners. Includes use of relevant audio, video and still image technologies.	Provides some instructional materials designed to meet multiple modalities. Some material may need to be more focused or relevant and may need more material to fully support the lesson.	Instructional materials will meet some needs of auditory and visual learners but will not likely meet all needs of all students. Some materials may need more focus.	Does not include materials and examples to meet all student needs. Provides superfluous technology examples.
Assessment of Objectives	Begins with clear measurable objectives that are framed in a UDL format. Provides multiple means for demonstrating mastery of the objective that do not detract from the overall goal of the objective.	Has clear and measurable objectives that may be partially framed in a UDL manner. Provides some ways to meet some objectives but not fully UDL oriented. Some options may threaten validity of the measure.	Goals and objectives need greater clarity. Some aspects are not written in a UDL manner. Several options for demonstrating mastery threaten the validity of the measure.	Unclear objectives or objectives not written with consideration for UDL. Some options violate validity of the measure.
Instructional Software Support	Provides a range of supporting software ideas that can help to review and introduce topics in an interesting way to students. Identifies the strengths and weakness of the software relative to universal access and students with disabilities.	Provides a range of software ideas. Restricted to review or introduction. Identifies strengths and weakness of the software relative to kids with disabilities.	Provides limited software ideas. Does not evaluate features of software relative to students with disabilities.	Provides software of a limited range which may be superfluous and not appropriate for the target learners. Does not consider needs of students with disabilities.
Web based support	Provides several high quality outside resources and brief information about what is available on	Provides some high quality websites and some information about the sights. May provide	Provides some web sites. May or may not be fully related. Provides little information or guidance for	Provides limited websites and little or no information about them. Sites not related or not fitting for the

	the site. Provides clear activities or instructions on what students should do or see at that website. Sites are accessible (Bobby Approved) or info is provided to get content to students with disabilities.	some activities for students to do on the site.	students on what they can gain from that site.	group. Little or no instructional information/guidance provided to students.
Rationales	Strong rationale. Any principal would support the purchase of technology for this lesson.	Rationale for most technology is strong but may not convince everyone of the need to have technology support.	Rationale may or may not adhere to best practices or what we know about tech. Sections may be unclear or left unjustified.	Rationales are weak and disjointed. Several technology supports are not justified. Principal would likely padlock your computer.
Consulted with Dr. Ayres prior to beginning plans?	Yes = 2.5		No = 0	