

I. COURSE DESCRIPTION:

A. Department Information:

Division: Student Support
Department: Disabled Students Programs and Services
Course ID: SDEV 901X3
Course Title: Introduction to Computer Adaptive Technology
Units: 2
Lecture: 1 hour
Laboratory: 3 hours
Prerequisite: None
Dept Advisory: This course is intended for students with medically verified disability or disabilities (students who must use adaptive computer hardware and software to complete course requirements) and students with access limitations. Instructor may grant permission to non-disabled students who want to explore assistive technology and software. This is an open entry, open exit course.

B. Catalog and Schedule Description:

Provides disabled students with an opportunity to evaluate available adaptive technologies and software, as well as appropriateness of accommodations required for parity with peers in regular college classes. Instructor may grant permission to non-disabled students who want to explore adaptive technology and software.

II. NUMBER OF TIMES COURSE MAY BE TAKEN: Three

III. EXPECTED OUTCOMES FOR STUDENTS:

Upon successful completion of the course, the student should be able to:

- A. Identify and analyze computer hardware, software and other adaptive technologies needed for parity with peers in regular college classes.
- B. Install, setup and utilize adaptive technologies in an instructional setting.
- C. Use identified technologies to accommodate their individual adaptive computing needs.
- D. Explore hardware and software in the DSP&S High Tech Center.
- E. Evaluate and review different journals dealing with adaptive technologies.
- F. Analyze new and emerging adaptive technologies and software.
- G. Design accessible web pages
- H. Select proper font sizes and background colors when designing web pages
- I. Utilize High Speed Scanning technology to convert written text into electronic text format.

Students who take the course more than once shall continue to develop skills outlined above.

Upon completion of the first semester, students should be able to:

- A. Demonstrate understanding of various adaptive hardware and software
- B. Demonstrate the ability to install, setup, and use hardware, software like JAWS, Zoom Text, pen book, and High Speed scanning technology.
- C. Combine software and hardware to address a specific disability and student need.
- D. Demonstrate knowledge of where to get external help, and available resources.

Upon completion of the second semester, students should be able to:

- A. Explore public law section 508 and its provisions.
- B. Demonstrate good understanding of AB 422, and its provisions.
- C. Demonstrate the ability to produce e-text from printed materials.
- D. Utilize appropriate software to convert electronic text into MP3 audio.
- E. Demonstrate the use of a scanner in scanning documents into electronic format.

Upon completion of the third semester, students should be able to:

- A. Have an understanding of public law section 508 and its provision.
- B. Demonstrate the ability to design accessible Web pages.
- C. Demonstrate the ability to select proper fonts and background colors.
- D. Demonstrate the ability to utilize accessible software to check web pages for accessibility compliance.
- E. Demonstrate the ability to insert Alt-Tag and D-Links web pages to properly describe images and picture.

IV. COURSE CONTENT:

Lecture

- A. Introduction to adaptive technology
- B. Introduction to accessible web pages
- C. Overview and provisions of Public Law section 508
- D. Overview and provisions of SB 422, and AB 105
- E. Introduction of alternate media
- F. Overview of basic operation of a personal computer system equipped with adaptive software and hardware.
- G. Overview of adaptive technologies.
- H. Configuring and testing input and output devices.
- I. Overview of vendors on various adaptive technologies.
- J. Government regulations pertinent to adaptive technology, basic accommodations required by law.
- K. Selecting the best technology and software to address individual disability.
- L. Helpful self-help URLs on adaptive computer technology and disabilities.
- M. Review and analysis of professional journals in the field of adaptive technology.
- N. Research on successful individuals who used technology to overcome their disabilities.
- O. Utilizing high speed scanning technology to convert written text into electronic text format.
- P. Using D-link to produce accessible web pages
- Q. Overview of Alt-Tag and how to use it to construct accessible web sites
- R. Converting e-text into MP3 audio player.
- S. Accessible web page design, including proper font size selection and background color selection.
- T. Reading assignment from class Textbooks

Laboratory

- A. Demonstration of adaptive software and hardware.
- B. Demonstration on how to convert e-text to MP3 audio
- C. Designing Accessible Web pages
- D. Demonstration of Jaws Screen reader
- E. Alternate media production
- F. Demonstration of Zoom Text and reading software
- G. Exploration of adaptive software/hardware vendor websites to keep track of new and emerging software and adaptive technology.

V. METHODS OF INSTRUCTION:

- A. Individual and small group Instruction
- B. Class and group discussion
- C. Hands-on instruction on the various pieces of adaptive technologies.
- D. Troubleshooting hardware and software technologies
- E. Student demonstration through hands-on projects.
- F. Lecture
- G. Demonstration of Accessible web page design techniques
- H. Accessible web page evaluation
- I. Testing students web pages in class for accessibility compliance

VI. TYPICAL ASSIGNMENTS:

- A. Reading
Students will read product manual to understand how to configure and use adaptive technology, visit adaptive software/hardware vendor's websites to familiarize themselves with current and emerging technologies in their need area/s.
- B. Writing
Each student will write a paper on identified individual adaptive technology needs, with vendor and price information on the selected technologies.
- C. Production
Each student will produce a list of compatible technology that can be adapted to accommodate his or her individual disabilities.

VII. EVALUATION(S):

- A. Methods of Evaluation
 - 1. Authentic Evaluation (student demonstration of technology and software)
(For Example: Teacher will observe students demonstrate in the lab their ability to setup and use available adaptive software and hardware.)
 - 2. Narratives of facts learned in form of class discussion and essay
(Students will be asked to complete a reflective essay on what they have learned in class, including narratives on the process used to complete assignment.)
 - 3. Troubleshooting of selected adaptive to resolve software and hardware conflicts
 - 4. Technical skills in basic operation of selected adaptive technologies
 - 5. Student grade will be determined by weekly progress based upon observed behavior and skill development.
- B. Frequency of Evaluation:
 - 1. Student grade will be determined by weekly progress based upon observed behavior and skill development.
 - 2. Completion of a narrative essay on procedures used to solve a problem or complete a class task.
 - 3. Completion of three adaptive technology software and hardware evaluations with vendor contact information.

In general, students are evaluated on their ability to use hardware and software used in an adaptive computer technology environment.

Upon completion of the first semester, students should be evaluated based on ability to:

- A. Demonstrate understanding of various adaptive hardware and software
- B. Demonstrate the ability to install, setup and use available hardware and software, for example, JAWS, Zoom Text, Open book, and High Speed scanning technology.
- C. Demonstrate the ability to combine software and hardware to address a specific disability and student need.
- D. Demonstrate knowledge of where to get external help, and available resources.

Upon completion of the second semester, students should be evaluated based on ability to:

- A. Explore public law section 508 and its provisions.
- B. Demonstrate good understanding of AB 422, and its provisions.
- C. Demonstrate the ability to produce e-text from printed materials.
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Upon completion of the third semester, students should be evaluated based on ability to:

- A. Understand public law section 508 and its provisions.
- B. Demonstrate the ability to design accessible Web pages.

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Curriculum Approved: February 2, 2004
Last Updated: February 2004

- C. Demonstrate the ability to select proper fonts and background colors.
- D. Demonstrate the ability to utilize accessible software to check web pages for accessibility compliance.
- E. Demonstrate the ability to insert Alt-Tag and D-Links web pages to properly describe images and pictures.

VIII. TYPICAL TEXT(S):

Living in the State of Stuck: How Assistive Technology Impacts the Living of People with Disabilities
ISBN: 157120796, 3rd Ed. June 2000, by Marcia J. Scherer.

Assistive Technology: Matching Device and Consumer for Successful Rehabilitation, ISBN
1557988404, November 2001, by Marcia J. Scherer.

Also, instructor will use on-line product information manuals, specialized software documentation, journals and research papers on current trends of adaptive technology pertinent to individuals with disabilities. Instructor may utilize various reference books relevant to topics being presented as needed.

IX. OTHER SUPPLIES REQUIRED OF STUDENTS:

Students are required to supply their computer disk, zip disk, CD-ROMS, and Jumpdrive.