

**MISSISSIPPI STATE UNIVERSITY  
COLLEGE OF EDUCATION**

**DEPARTMENT of COUNSELING and EDUCATIONAL PSYCHOLOGY  
COURSE SYLLABUS**

**Course Prefix & Number:** COE 4353

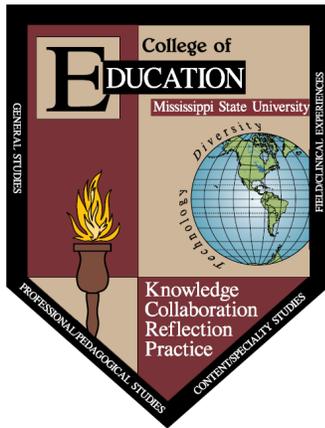
**Course Title:** Assistive Technologies: Principles and Practice

**Credit Hours:** 3 hours

**Type of Course:** Lecture

**Catalog Description:** (Prerequisites: Undergraduates: COE 3313. Graduates: COE 6393, COE 8373 or permission of the instructor). Three hours lecture. Diverse applications of technologies are reviewed for potential impact with all forms of disability. Examines various roles played by technology in total rehabilitation process.

**College of Education Conceptual Framework:**



The faculty in the College of Education at Mississippi State University are committed to assuring the success of students and graduates by providing superior learning opportunities that are continually improved as society, schools, and technology change. The organizing theme for the conceptual framework for the College of Education at Mississippi State University is educational professionals - dedicated to continual improvement of all students' educational experiences. The beliefs that guide program development are as follows:

1. **KNOWLEDGE** - Educational professionals must have a deep understanding of the organizing concepts, processes, and attitudes that comprise their chosen disciplinary knowledge base, the pedagogical knowledge base, and the pedagogical content knowledge base. They must also know how to complement these knowledge bases with the appropriate use of technology.
2. **COLLABORATION** - Educational professionals must continually seek opportunities to work together, learn from one another, forge partnerships, and assume positions of responsibility.
3. **REFLECTION** - Educational professionals must be willing to assess their own strengths and weaknesses through reflection. They must also possess the skills, behaviors, and attitudes necessary to learn, change, and grow as life-long learners.
4. **PRACTICE** - Educational professionals must have a rich repertoire of research-based strategies for instruction, assessment, and the use of technologies. They must be able to focus that array of skills on promoting authentic learning by all students or clients, while exhibiting an appreciation and commitment to the value and role of diversity.

## Course Description:

In the last 15 or so years, there has been a great increase in the research and development of Assistive Technology (AT). AT is technology that is utilized by individuals with disabilities so that they can pursue self-care, educational, vocational, and recreational activities. This course will examine this technology and the human components that go into its prescription, application, and utilization.

## Course Objectives:

- A. To demonstrate an understanding of AT: some history, the present state of the industry and the technology, and a peek at the future.
- B. To demonstrate an understanding of the human component: the Human Activity Assistive Technology (HAAT) Model, the human user of AT, and AT services (from evaluator to consumer, including service and delivery of AT).
- C. To demonstrate knowledge in the appropriate application of Extrinsic Enablers: positioning systems to promote function and to address medical issues, control interfaces as they apply to humans and assistive technology, and computers and electronic output devices that are utilized by individuals with disabilities.
- D. To demonstrate knowledge and understanding of specific assistive technology and its application: personal mobility, aid manipulation and control of the environment, and sensory aids for persons with visual, auditory, or tactile impairments.

## Topics to be Covered:

All readings are from the Cook & Polgar text unless otherwise indicated.

**SPECIAL NOTE: The instructor reserves the right to deviate from this syllabus at any given time. Student is responsible for all material from text even if not presented in power points and lecture notes.**

Chapter 1, Introduction and Overview

Chapter 2, Framework for Assistive Technologies

Chapter 3, Disabled Human User of Assistive Technologies

Small Group Exercise for Part 1 (Designing an Assistive Technology System)

Chapter 4, Delivering Assistive Technology Services to the Consumer

Chapter 5, Funding Assistive Technology Services and Systems

Small Group Exercise Part 2 (Evaluating the Effectiveness of an AT System)

Chapter 6, Seating Systems as Extrinsic Enablers for Assistive Technologies

Chapter 7, Human/Assistive Technology Interface

Chapter 8, Sensory Aids for Persons with Visual Impairments

Chapter 9, Sensory Aids for Persons with Auditory Impairments

Small Group Exercise Part 3 (Matching an AT System to a User)

Chapter 10, Assistive Technologies for Cognitive Augmentation

Chapter 11, Augmentative and Alternative Communication Systems

Chapter 12, Technologies that Enable Mobility

Chapter 13, Technologies that Aid Transportation

Chapter 14, Technologies that Aid Manipulation and Control of the Environment

Small Group Exercise Part 4 (Designing an AT System for the Future)

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Chapter 15, Assistive Technologies in the Context of the Classroom  
Chapter 16, Assistive Technology in the Context of Work  
Project Presentations (15 minutes per student, strict time limit)

### **Required Text:**

Cook and Polgar (2008). *Cook and Hussey's Assistive Technologies: Principles and Practice*, 3<sup>rd</sup> ed.

### **Course Design/Method of Instruction:**

The instructor has prepared Powerpoint presentations and video examples to help present the application of the technologies and emphasize some important concepts. The student should attempt to review the Powerpoints and videos on their own time if missed during the lecture. These presentations are designed to help prepare the student for quizzes and exams. The Powerpoints and videos are NOT a substitute for the chapter readings or lecture notes the instructor delivers during class – they are simply to help the student see actual equipment and to help identify important information that is in the chapters and lecture notes. Along with the presentations and lecture notes, periodically each student will be assigned to a small group and several group exercises will be performed to illustrate important concepts within chapters. Each student will also be responsible for presenting an assigned project to the class and submitting an accompanying paper to the instructor, both of which will receive a grade.

### **Student Activities/Course Requirements:**

1. Participation: You must participate in this class and it is expected that you will e-mail the instructor promptly if any assignments are not submitted by their corresponding due date, to discuss the options. The students are responsible for their time management. Students are expected to read chapters weekly, take the quizzes/exams, complete the project assigned, and participate in small group discussions/exercises. More on each of these will follow.
2. Students are expected to attend the lecture classes and participate. Participation includes but is not restricted to: recording lecture notes, viewing the presentations, conversing in group discussions and with instructor, and completing quizzes/exams. Textbook reading and homework are in addition to class time. Deadlines will be taken seriously, and if a student misses the deadline for an assignment, quiz, or exam, he or she will normally receive a ZERO. Extenuating circumstances may be considered by instructor (if found valid severe penalties will be assessed as appropriate). If a verifiable emergency arises, you (the student) are expected to contact the instructor via telephone or email BEFORE the time of the assignment, exam, etc. is due or taken. **Please do not request “extra credit” assignments.**
3. American Psychological Association (6<sup>th</sup> edition) writing style is required for all papers. The APA style manual is a required text. All work should be carefully proofread and corrected. Spelling, grammar, and punctuation are important factors in the writing process. These types of errors will significantly lower your grade.
4. Academic Honesty: Any student suspected of engaging in academic dishonesty including plagiarism, using another student's work, etc., will be referred to the University Committee on Academic Misconduct. All occurrences of academic misconduct will be dealt with in accordance with the guidelines and procedures outlined

in the Academic Misconduct Policy. This policy may be accessed on the Internet at <http://www.msstate.edu/dept/audit/1207A.html>. In addition to university sanctions, Academic Misconduct may result in dismissal (see College of Education dismissal policy on the web at [http://www.msstate.edu/dept/index\\_files/CollEdHB.pdf.pdf](http://www.msstate.edu/dept/index_files/CollEdHB.pdf.pdf)).

### **Course Requirements:**

There will be five examinations, each covering 1 part of the text. The examinations will NOT be comprehensive. The examinations will consist of objective (i.e., true/false, multiple choice, matching) and short answer questions. Exams on Parts 1, 2 and 5 account for 10% each, and Parts 3 and 4 account for 20% each of the final grade. Students will also be required to present to the class on an assigned project and submit an accompanying paper, which will account for 10% of the final grade. In addition, there will be an annotation assignment accounting for 5% of the final grade. One quiz covering each chapter will be given after discussion of that chapter. Quizzes count in the participation category below for 15% of the final grade. Small group exercises will be assigned for each Part and will count in the final participation grade.

Exams will be administered during a specified class period and you will have a time limit for each exam. Scores are not generally released until all students have taken the exam. DO NOT miss an exam if at all possible. If a student misses an exam or fails to submit an assignment by the date specified, s/he must submit to the instructor a University-recognized excuse. Any exam made up more than one class period after returning from an excused absence, will receive a 25% deduction for each class period the make-up exam is late. Quizzes will follow the same guidelines as exams. Assignments turned in late will be reduced one letter grade for each class period late past the due date for excused absences only.

For each part of the text a small group exercise will be performed in the specified class period. Each student will receive points for participation which will count in final grade. Presence is required for this course and much of the material can only be mastered through regular participation. If you are having difficulty, you must communicate with the instructor immediately.

### **Honor Code:**

*Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code.*

***“As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.”***

5. Appropriate classroom behavior: Preparation, respect for others, alertness, and cooperation are important aspects of the learning process and are highly valued and expected in this environment. The student is responsible for seeking clarification of material presented and for any announcements made regarding reading assignments, exams, quizzes, or other pertinent information.

### **Technology/Electronic Devices:**

We live in an age of electronic devices that are continuously demanding our attention and become a distraction in class. To the end that they are a distraction please either turn your devices off or to a silent signal during classes. If you must excuse yourself to answer an emergency, do so in an unobtrusive manner and limit your time away from class attending to such emergency calls. *In most cases, please turn off your electronic devices during class time and make phone calls before and after class if at all possible.*

### **Diversity:**

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, disability, or veteran status. Mississippi State University conforms to Title IX of the education amendments of 1972, section 503. The department of counseling and educational psychology encourages the recruitment, acceptance, and enrollment of minority students of the region and beyond. Efforts are made to ensure that programs are diverse in terms of age, gender, ethnicity, race, sexual orientation, religion, socioeconomic status and disability. Members of minority groups are strongly encouraged to seek admission in the department.

### **Academic Accommodations Statement:**

Academic Accommodations Qualified students needing academic accommodations are required by law to initiate the request process. If you have not made arrangements for accommodation and feel that you are eligible for such accommodations, for more information please contact the Office of Student Support Services at 325-3335 or 325-6266 (TDD).

### **Field Experience:**

None

### **Evaluation of Student Progress:**

Examinations (Parts 1,2,&5 10% each, Parts 3&4 20% each)	70%
Project (paper and class presentation)	10%
Annotation Assignment	5%
Participation (in-class assignments, attendance, quizzes, etc.)	15%

#### Grading Scale:

A = 90-100    B = 80-89    C = 70-79    D = 60-69    F = 0-59

## **ANNOTATION ASSIGNMENT COE 4353**

## **AT Principles and Practice**

This assignment essentially consists of locating, evaluating, and annotating two scholarly (peer-reviewed) sources that address an issue of Assistive Technology abandonment or refusal of needed equipment to a consumer. Each annotation must include a complete reference to the source in APA style. Required content is as follows:

- 1. What is the author's purpose for writing?**
- 2. What were the reasons for the equipment abandonment or the refusal of the equipment addressed in the article? Provide specific examples.**
- 3. What method of obtaining data was used, if any? Are the author's comments, theories, or opinions based on personal beliefs or experience, interviews, research, questionnaires, laboratory experiments, etc.?**
- 4. What are the articles findings (conclusions)?**
- 5. Is the author able to satisfactorily justify these conclusions?**
- 6. How might alternative practices (evaluation, equipment matching, service delivery, training, etc.), methodologies, interventions, or supportive information or data help improve the outcome of the situation?**

**PAPER AND PRESENTATION ASSIGNMENT**  
**COE 4353**  
**AT Principles and Practice**

Every student will be randomly assigned a case study of an individual with 1 or multiple disabilities and 1 or more specific goals. The project consists of creating hypothetical scenarios that include all aspects of the assistive technology process, including, but not limited to: interview and background information, physical evaluation and testing for functional abilities, brainstorming and review of possible equipment and interventions [include all aspects from funding to service delivery and all environmental issues (various physical environments, support from family, school, co-workers, etc.)], testing of most appropriate equipment and interventions, evaluation of results, making the final recommendations, steps to obtain funding with plans to address anticipated problems, delivery and training, and follow-up with outcome measurements.

The papers should be detailed and imaginative, but superfluous information that does not impact the process will detract from its readability. I am looking for the student to take the information they have gained from the course and incorporate it into the different parts of the intervention process. A minimum amount of information in each area will be required to receive an average grade. To earn an above average grade will require the student to be comprehensive in their scenarios and thorough in the documentation of each step in the process. The more realistic the scenarios are, the more points you will be awarded.

The paper is worth 90% of the grade and the 15-minute presentation the remaining 10%. The presentation should be an entertaining overview of the entire process.