Assistive Technology Visual Impairment Fact Sheet

MEd Vision Studies: Assistive Technology Visual Impairment (ATVI) & Graduate Certificate in Assistive Technology Visual Impairment (ATVI)

For those who want to work in areas that enhance technological skills to enhance opportunities in a variety of settings, such as vocational, educational, independent living, and avocational settings.

The Program

The University of Massachusetts Boston offers a Master of Education (MEd) in Vision Studies: ATVI and Graduate Certificate in ATVI to prepare for application eligibility for the Certified Assistive Technology Instructional Specialist (CATIS) through Academy for the Certification of Vision Rehabilitation and Education Professionals (ACVREP). The Vision Studies program, within the School for Global Inclusion and Social Development, is also supported by the Northeast Resource Center for Vision Education (NERCVE). This is a fully online program but does include required integrated field experience hours and locally-based practicum field experiences.

Students who complete the program of study qualify to sit for the professional examination required for certification through ACVREP. Graduates of the program can expect to find employment opportunities in various settings, including state and federal agencies, private agencies, as well as public and private schools.

Courses: MEd & Graduate Certificate (ATVI)

Course Number	Course Name	Credits
VISN 603	Braille I	3
VISN 604	Eye Anatomy and Disease	3
VISN 605	Clinical & Functional Assessment of Vision	3
VISN 660	Introduction to AT for People with VI	3
VISN 661	Assess. & Instruction for People with VI	4
VISN 662	Configuration & Exploration of AT Solutions for VI	4
VISN 663	Tech. Methods of Accessibility & Accomm. for VI	4
VISN 669	Practicum in AT	4
Total Credits	Graduate Certificate	28

Additional courses required for MEd

Course Number	Course Name	Credits
VISN 601	Physical & Funct. Aspects of VI	3
VISN 602	Ed. of Stud. w/VI	3
VISN 640	Psycho-Social Aspects of VI	3
Total Credits		9

Overview

The MEd in Vision Studies ATVI track requires the completion of 37 graduate academic credits. Individuals who would like to pursue the Graduate Certificate in ATVI must have a minimum of a bachelor's degree and complete a total of 28 credits. Those who have a background in vision studies may be eligible to waive one to three courses.

NERCVE is an established center within the Institute for Community Inclusion and is academically affiliated with the School for Global Inclusion and Social Development at UMass Boston. NERCVE is dedicated to improving the education and rehabilitation of children and adults with visual impairments through regionally accessible professional educator training, technology, and research. For more information about the ATVI programs, visit NERCVE.org.

Course Descriptions

VISN 601: Physical & Functional Aspects of Visual Impairment
The student is introduced to the structure and function of the main systems of the human body and to those chronic conditions which may affect these systems. Emphasis will be placed on disabilities most frequently seen in conjunction with visual impairments and how the combined impact will affect instruction for individuals with visual impairment. Having covered these areas, each of the sensory systems will also be explored with the mechanics of locomotion and psychomotor factors influencing mobility.

VISN 602: Education of Students with Visual Impairments
This course examines the philosophical, historical and legal foundations of special education services to students with visual impairments. This course overviews the wide array of services and resources available to support students with visual impairments. Topics include legislation, service systems, roles and responsibilities of specialized service providers and the impact of visual impairment on child development.

VISN 603: Braille Communications I
This course will train individuals to teach reading and writing of contracted Unified English Braille. Participants will learn read embossed braille visually and to write Unified English Braille using a Perkins Braille Writer, computer keyboard for six-key entry, and a slate and stylus. Topics include teaching techniques for reading readiness, tracking, tactile discrimination, and reading methods. Reading problems and remediation will be discussed. Techniques used in education and rehabilitation will be included. The use of technology to produce braille will be reviewed.

VISN 604: Eye Anatomy and Disease
This course introduces the student to the anatomy and physiology of the eye and examines refraction, clinical testing procedures, and major visual disorders. The medical component of this course provides the foundation to the remainder of the course, as it looks at the functional implications of individual eye conditions on educational and vocational services.

VISN 605: Clinical & Functional Assessment of Vision
This course is designed to train professionals to work with individuals who have low vision in both rehabilitation and educational settings. Through selected readings and presentations on

the theoretical and practical aspects of low-vision, participants will acquire a solid knowledge base and become comfortable with various low-vision concepts and methods for integrating visual needs and adapted equipment within an educational/rehabilitation environment. In addition, small group activities, case studies, and simulation will be incorporated throughout the course to provide participants with the practical application of skills and techniques learned.

VISN 640: Psycho-Social Aspects of Visual Impairment

This course is designed to train professionals to work with individuals who have low vision in both rehabilitation and educational settings. Through selected readings and presentations on the theoretical and practical aspects of low-vision, participants will acquire a solid knowledge base and become comfortable with various low-vision concepts and methods for integrating visual needs and adapted equipment within an educational/ rehabilitation environment. In addition, small group activities, case studies, and simulation will be incorporated throughout the course to provide participants with the practical application of skills and techniques learned.

VISN 660: Introduction to AT for People with Visual Impairments

This fully online course will provide an introduction to the profession of Assistive Technology Instructional Specialist for Individuals with Visual Impairments. Students will learn through demonstrations, hands-on activities, and independent learning exercises about a variety of assistive technology solutions for people of all ages who are blind or visually impaired, including: screen magnification software, screen reading software, OCR software, braille technologies, low vision devices, smart phone and tablet accessibility features, as well as other specialized devices designed for people with visual impairments. The benefits and limitations of accessibility features that are built-in to mainstream technologies compared to specialized assistive technology devices and software will be discussed. Techniques for determining the most appropriate assistive technology solutions will also be discussed. The course explores strategies for integrating assistive technology in different settings, such as in schools, homes, colleges/universities, jobsites, and avocational settings.

VISN 661: AT Assessment and Instruction for People with Visual Impairments

This fully online course provides participants with a thorough overview of assessment and instruction techniques for teaching assistive technology to people with visual impairments of all ages. Topics include: Task analysis; lesson and training plan development; learning development and evolution of assistive technology skills during instruction; learning theories as applied to children and adults; instructional strategies for assistive technology; conducting assistive technology assessments; making decisions regarding appropriate devices; choosing appropriate learning modalities; justifying recommendations; applying different AT assessment techniques, such as HAAT, WATI, and SETT; ethical issues related to AT assessment and services; and writing AT assessment reports. We will explore ethical issues in AT, evaluating the effectiveness of AT services, using AT with productivity platforms on different operating systems, developing curriculum for teaching screen magnification and screen reading software on different operating systems, developing curriculum for teaching accessible apps on mobile devices, as well as developing curriculum for teaching accessible stand-alone devices, accessible third-party applications, and built-in accessibility features.

VISN 662: Configuration and Exploration of AT Solutions for People with Visual Impairments

This fully online course will assist participants in understanding and applying configuration and exploration strategies for mainstream and assistive technologies. We will explore a variety of topics, including: Operating systems and computing devices, various PC components, operational procedures for professionalism and effective communication, technical support resources for accessibility for major operating systems, tools used for computer maintenance and repair, installing software and operating system updates, setting up and using built-in accessibility features in different operating systems, operating system maintenance procedures, setup and configuration of systems and devices for remote training, determining if remote training and support is appropriate, conferences and educational opportunities to keep up-to-date with various technologies, computer maintenance tools and procedures, disabling and removing of unnecessary or inaccessible third-party software, troubleshooting computing technology, virtualized operating systems, display technologies, options for self-teaching and continuing education to remain current with various technologies, local networking, wireless networking, wireless communications technologies, connecting to the internet, configuring email, troubleshooting internet issues, portable and mobile computing technology, and security measures for computing technology.

VISN 663: Technological Methods of Accessibility and Accommodations for People with Visual Impairments

This fully online course will provide an overview of best practices for providing assistive technology services to people with visual impairments, as well as digital accessibility and usability, accommodations, and universal design in educational, vocational, avocational, and home environments. Students will learn through demonstrations, hands-on activities, and independent learning exercises about strategies for creating accessible instructional materials in a variety of formats and learning modalities, customizing screen readers on various operating systems for compatibility with third-party applications, and personalizing assistive technology options. This course explores a variety of assistive technologies, techniques, and strategies for working with people who have visual impairments, as well as additional disabilities.

VISN 669: AT for People with Visual Impairments Practicum

The Assistive Technology for People with Visual Impairments Practicum consists of a supervised practicum for pre-service professionals within the Assistive Technology Program working with students who are visually impaired, ranging from school aged students to adult vocational and geriatric populations. Pre-registration for the Assistive Technology for People with Visual Impairments Practicum is required one semester prior to enrollment, along with documentation of completion of all required courses and successful completion of a minimum of 25 integrated field hours for assistive technology experiences. The practicum site must be approved by the Program Coordinator. In addition to the field-based experience, students are expected to obtain a passing score on the national professional Certified Assistive Technology Instructional Specialist for Individuals with Visual Impairments (CATIS) examination through the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP).

The Application Process

Apply to the UMass Boston ATVI programs by completing the UMass Boston Application for Graduate Programs (https://www.umb.edu/admissions/apply/#grad), where you can apply online with a credit card. Specify that you are applying to the MEd in Vision Studies: Assistive Technology track or the Graduate Certificate in Assistive Technology Visual Impairment.

Applicants are accepted into the program once a year for the fall semester. Students must be able to pass any background checks that may be required (i.e. CORI, SORI) to participate in practicum experiences. **The application deadline for the fall semester is June 15.**

As part of the application process for the university, you are also required to:

- Obtain two letters of recommendation, using the forms provided by the Office of Graduate Admissions. Emphasis should be placed on academic and professional references.

- Submit an official transcript from each institution attended; a minimum cumulative undergraduate GPA of 3.0 is preferred for admissions into the ATVI programs.

- Submit a statement of interest and intent by writing a three-part essay where you will:

  1. Explain your reasons for wishing to pursue graduate studies (approximately 300 words).

  2. Indicate your specific interest and discuss the type of work you would like to do in your intended field (at least 1,200 words).

  3. Discuss how you bring a unique and critical perspective based on inclusive practices or diversity (approximately 300 words)

  4. Please note that this statement will be reviewed for both your overall message and your ability to write at the graduate level. Proofread your writing carefully; it is ranked according to its clarity, grammar, and syntax.

About UMass Boston

With a growing reputation for innovative research addressing complex urban issues, the University of Massachusetts Boston, metropolitan Boston's only public university, offers its diverse student population both an intimate learning environment and the rich experience of a great American city. UMass Boston's ten colleges and graduate schools serve approximately 16,000 students while engaging local, national, and international constituents through academic programs, research centers, and public service activities. To learn more about UMass Boston, visit UMB.edu.