Master of Science in Virtual Education with a Concentration in Artificial Intelligence

Master of Science in Virtual Education

To address the reality that the field of Education can greatly benefit from the contributions of professionals trained in other areas of knowledge, it is essential for educators to take an active role in open, interdisciplinary exchange. To support this, Broward International University offers several concentrations within its MSc in Virtual Education program, allowing students to choose from different types of elective courses to tailor the program to their specific career goals.

The available academic concentrations have been selected based on current workforce demand and are designed to prepare students to take on specialized responsibilities within their chosen area. The Master of Science in Virtual Education consists of 24 semester credits of foundational distance education courses (core courses) plus 12 semester credits of specialized courses that uniquely shape the selected concentration. Please note that concentrations are not listed on the diploma, but they will appear in detail on the student's Academic Record. Below is a description of the standard MSc in Virtual Education and the MSc. in Virtual Education with its respective concentrations, currently available.

Program Objective

Broward International University's (BIU) 100% online Master of Science in Virtual Education is designed to provide broad theoretical preparation in topics highly relevant to education, while promoting the development of practical technology skills that can be used to meet the challenges of a constantly evolving distance teaching-and-learning environment. Students will embrace the appropriate use of technology as a learning tool and will actively work to apply it to improve educational opportunities and academic performance. Special emphasis is placed on strengthening students' knowledge and skills in virtual education, instructional media, instructional design, virtual learning platforms, cloud-based learning environments, and virtual learning tools, among other resources.

Program Description

The program focuses on the role that new technologies play in the development and the transformation of virtual education theory and practice worldwide in the 21st century. Students will learn to build websites and create online assessments, develop an institutional strategy for virtual learning, and help students strengthen effective online study skills. They will also have the opportunity to explore a range of conceptual ideas; for example, how the digital environment changes the way we build knowledge, the politics of virtual learning, and the

the digital era, and the ways video games may influence education and postsecondary training. This program is designed primarily for education and administrative professionals, media specialists, information specialists, trainers (in government, corporate settings, and for managers and supervisors), instructional technology specialists, curriculum developers, professional development specialists, and distance education program coordinators with foundational experience using educational technology or virtual learning.

Master of Science in Virtual Education with a Concentration in Artificial Intelligence

This concentration is designed to equip teachers and academic leaders to guide strategies for implementing Artificial Intelligence tools such as ChatGPT and other end-user applications within their own educational institution, as well as to design educational programs, subject areas, and courses that integrate commercial and open AI applications, instructional design, and teaching practice. This work will be developed across several areas, such as:

- Key strategies for integrating technology tools into the institution's educational model.
- Conceptual understanding of technologies and end-user applications currently available to teachers and administrators.
- Instructional design of courses that incorporate these AI tools, especially within assessment systems.
- Information management for decision-making through programs and applications that use predictive artificial intelligence models.

This will enable our students to master the following knowledge and skills:

- Distinguish use cases and choose the available AI end-user technologies and tools based on the academic goal, such as ChatGPT.
- Develop and lead implementation projects that apply AI techniques and tools to teaching practice and data-informed decision-making.
- Effectively lead the process of transforming institutional instructional practice, aligning it with the AI tools of the Fourth Industrial Revolution.
- Understand and apply in a practical way the tools and applications of artificial intelligence in virtual education.

Course Methodology

Our learning methodology is flexible, adapts to every learning style, is fully online, and is delivered through a blend of live sessions and asynchronous group and individual activities that are strongly grounded in case studies. All live sessions are recorded and made available for students to replay (even if they were unable to attend a session), giving the system a high degree of flexibility.

Our faculty—all holding doctoral degrees and deeply connected to industry—approach theory through case studies drawn from real companies and institutions, where students apply what they learn. The combination of asynchronous discussion forums and live chats makes it possible not only to build a problem-solving mindset, but also to develop

but also the real-world embodiment of situated learning in the volatile, uncertain, complex, and ambiguous environments that define the Fourth Industrial Revolution our society is moving through.

These spaces for dialogue and exchange foster an active learning approach and strong synergy among classmates, leading to the development of soft skills and the creation of valuable professional connections (networking), enhancing our professional profile with a community of peers who hold a master's degree and with whom we've built a trusted professional relationship. As a result, our master's students build their learning through real-world cases, grounded in solid theoretical frameworks and supported by a flexible online environment—strengthening soft skills and becoming part of a network of professionals who will support them throughout their entire career.

	Nombre del curso	Código	Créditos
1° Período Académico	Technology Development and Integration in Digital Learning Systems	VED6011	3
	Foundations of E-Learning and Digital Instruction	VED6012	3
2° Período Académico	Assessment Design and Evaluation in Online and Distance Education	VED6021	3
	Learning Environment and Diversity	VED6032	3
3° Período Académico	Introduction to Artificial Intelligence in Education(*)	VIA6031	3
	Instructional Design and Artificial Intelligence Applications (*)	VIA6032	3
4° Período Académico	Institutional implementation of AI in Education (*)	VIA6041	3
	Research Methodology	VED6052	3
5° Período Académico	The Ecosystem of Innovation and Knowledge	VED6051	3
	Data-Driven Decision Making in Educational Institutions (*)	VIA6042	3
6° Período Académico	Cloud Learning Environment, and Comparative Study	VED6061	3
	Thesis	VED6062	3

(*) Courses replacing the set of Concentration courses related to the standard MS in Virtual Education.





VED6011 - Technology Development and Integration in Digital Learning Systems: The main goal of this course is to provide an overview of virtual education. From the very beginning, students will gain a clear understanding of how online learning has transformed the teaching process and how it will shape the future. We will examine all levels of the distance education system, giving students the opportunity to develop a broad perspective on the applications of virtual education.

VED6012 - Foundations of E-Learning and Digital Instruction: Online learning (e-learning) in the 21st century offers a coherent, comprehensive, and evidence-based framework for understanding digital instruction. This course examines the technological, pedagogical, and organizational implications of e-learning systems. It provides practical models that enable students to tap into the full potential of e-learning; in addition, special emphasis is placed on understanding these technologies through an educational lens.

VED6021 - Assessment Design and Evaluation in Online and Distance Education: Information and communication technologies—and their impact on learning over the past decade—have profoundly reshaped the paradigms, contexts, and values of education at every level. In recent years, a persistent challenge has been the professionalization of tools and practices, along with the strengthening of academic and technical expertise. This course examines advances in open, distance, and online learning through emerging information and communication technologies, methodologies, and tools that have significantly transformed educational paradigms, contexts, and values across all levels during the last decade.

VED6032 - Learning Environment and Diversity: Web technologies are having a major impact on commerce, media, business, and education overall. Starting with the "Edu-blogosphere," this course focuses on how web technologies are shaping educational settings. Students will explore the potential of blogs, media-sharing services, and other social platforms that, while not specifically designed for e-learning, can be used to support student learning and create fresh, engaging opportunities where learning becomes far more personal, social, and flexible.

VIA6031 - Introduction to Artificial Intelligence in Education: This course aims to help educators and participants build a foundational understanding of key AI concepts and applications in education, becoming familiar with the basics and how AI can be used to enhance virtual learning. With a focus on using AI tools and applications for artificial intelligence (that do not require coding) in education, the course covers the core foundations of AI and introduces the principles of machine learning, neural networks, and classification algorithms through a qualitative approach using graphical interfaces that require no programming experience. The course also includes content on generative AI, such as chatbots, as well as data analysis and data mining techniques for education, along with topics related to ethics and privacy in the educational use of AI.

VIA6032 - Instructional Design and Artificial Intelligence Applications: This course is designed to equip participants to create instructional designs for classes and courses that make intensive, hands-on use of AI tools available to educators. With an emphasis on updating instructional techniques to center on artificial intelligence tools, the course covers integrating chatbots and generative technologies, recommendation systems, and sentiment-analysis applications. It also explores AI approaches for personalized learning and adapting to students' learning pace through case studies and practical, user-level examples—no programming experience required.

VIA6041 - Institutional implementation of AI in Education: This course provides teachers and school leaders with the skills needed to implement Artificial Intelligence tools and techniques in educational institutions. It focuses on institutional rollout strategies across different areas and functions. It covers topics such as institutional strategy, assessing and measuring AI's impact on learning outcomes, evaluating improvements to the user experience, designing professional development for educators, and adopting standards and practical guides for applying and using AI at the institutional level.

VED6052 - Research Methodology: In this course, students will develop a scientific research project that will serve as the foundation for a Master's thesis. To do so, students must rigorously follow the relevant steps of the scientific method, including the research-process components related to conceptualization and ethics, as well as a description of the qualitative, quantitative, or mixed scientific approach to be used. Specifically, students will identify and define a problem of interest that warrants seeking a solution and/or answers to problem-related questions formulated to deepen understanding of the issue; they will address the problem and/or related questions by conducting a background review to gather information and become familiar with what is currently known about the problem and/or the proposed related questions, including possible answers; and they will establish the parameters that will be used to study and understand the selected problem and/or the questions posed.

They will conceptualize and design the scientific method that will be applied to carry out the study. They will plan and present a clear, comprehensive research proposal that includes all of the elements above and, in addition, a detailed description of the procedures to be followed during the implementation of the fieldwork, as well as the population expected to participate and/or the sample to be collected for future analyses, and a description of the method for evaluating the information obtained. Students must follow the most current version of APA guidelines when writing their research project. The student must successfully complete this requirement with a grade of B or higher in order to graduate.

VED6051 - The Ecosystem of Innovation and Knowledge: This course gives students a well-rounded view of the cognitive and behavioral aspects of how people learn and retain knowledge, and it reviews instructional strategies designed to teach learners based on their individual learning differences. It also takes a deeper look at

the social, emotional, and cognitive processes involved in learning; major learning theories (constructivism, behaviorism, Piaget's theory of development, brain-based learning, multiple intelligences, right brain/left brain); identifying and examining learning methods to better understand how people take in and retain new information; and proposing targeted strategies for educators to refine instructional design and lesson planning to improve student learning based on individual differences in how they learn. As time allows, additional topics in educational psychology that are essential to supporting learning will also be addressed.

VIA6042 - Data-Driven Decision Making in Educational Institutions: This course is designed to strengthen data-driven decision-making skills in academic management. Its goal is to complement traditional criteria based solely on professional experience with the valuable insights found in institutional records—especially those from virtual campuses and academic management systems. The course covers core concepts in learning analytics, as well as data-analysis tools and techniques for academic management, including data visualization, trend analysis, and predictive analytics. It also focuses on techniques for making informed data-based decisions and on evaluating the impact of data analytics on decision-making.

VED6061 - Cloud Learning Environment, and Comparative Study: In this course, students will examine how virtual education has evolved around the world, with the goal of comparing experiences and forming their own perspective on the current state of online learning. Starting with a definition of cloud computing, why it exists, and its advantages and disadvantages. Students will explore the full range of cloud-platform features—infrastructure, services, applications, and security. They will assess the value of cloud computing, including licensing models and ROI, and will develop an understanding of abstraction, partitioning, virtualization, capacity planning, and a variety of scheduling solutions. Discussion will cover the use of web services from Google®, Amazon®, and Microsoft®, and students will explore cloud communication methods such as instant messaging, Twitter®, Google Buzz, and Facebook®, while learning how cloud services are reshaping mobile phones—and how mobile is reshaping the cloud.

VED6062 - Thesis: In this course, students are expected to continue and complete their Master's Thesis. To do so, students must systematically follow the scientific method described in their previously completed and approved research project. During this final phase, the student must carry out the approved procedure to conduct the fieldwork, which may be repeated as needed to ensure that the data collected are accurate and reliable at the time of collection.

Compile the information gathered through experimentation and/or observation. Carefully document all collected data (observations, measurements, survey results, and other predefined data) according to the variables being assessed. Analyze the recorded data using the appropriate methodology; interpret the results with a primary focus on proposing a solution to the selected problem and/or answering the related questions that were posed, while remaining open to addressing other aspects of the issue that were not previously identified as objectives but emerge from interpreting the data obtained.

Draw conclusions inferred from the experimental results and present recommendations that suggest relevant new scientific research. Students must follow the most up-to-date version of APA guidelines when writing their Master's Thesis, and coordinate a final oral presentation, which must be considered an integral part of a research project. The student must successfully complete this requirement with a grade of B or higher to graduate.