

# MASTER OF SCIENCE IN VIRTUAL EDUCATION WITH A CONCENTRATION IN ARTIFICIAL INTELLIGENCE APPLICATIONS

BIU University

## Mode

Online

## Language

Spanish

## Duration

18 months

## Course Descriptions

- **VED611 Development and integration of technologies in distance and virtual education (3 Credits)** The main objective of this course is to present an overview of virtual education. From the beginning, students will have a clear vision of how virtual education has changed the teaching process and how it will influence the future. We will study all levels of the distance education system, providing students with the opportunity to have a broad perspective of the applications of virtual education.
- **VED612 Fundamentals of E-learning (3 credits)** Online learning (e-learning) in the 21st century provides a coherent, comprehensive, and empirical framework of understanding. This course explores the technological, pedagogical and organizational implications of the e-learning system. The course provides practical models that enable students to utilize the full potential of e-learning; in addition, special attention is given to understanding these technologies from an educational perspective.
- **VED621 Virtual Education and Online Learning (3 Credits)** Information and communication technologies and their impact on the world of learning in the last decade have profoundly changed the paradigms, scenarios and values of education at all levels. The professionalization of tools and practices, in addition to the consolidation of academic and technical knowledge, has been an important constant problem over recent years. This course addresses the development in the field of open, distance and online learning through new information and communication technologies, and methodologies and tools, which have profoundly changed paradigms, scenarios and values at all levels of education. education during the recent decade.
- **VED622 Virtual Education and Technology (3 Credits)** Web technologies are having a great impact on commerce, media, business and education in general. Starting with the "Edu-blogsphere", this course will focus on the effect that web technologies have on the educational field. Students will explore the potential of blogs, media sharing services and other social programs that, although not designed specifically for e-learning, can be used to educate students and create new and engaging opportunities where the learning is much more personal, social and flexible.

- **VIA631 Introduction to Artificial Intelligence in Education (3 Credits)** This course aims to help teachers and participants achieve a basic understanding of the concepts and applications of artificial intelligence in education, familiarizing them with its fundamentals and how it can be used to improve virtual learning. Focused on the use of the tools and applications of Artificial Intelligence (which do not require programming) in education, this course conceptually addresses the foundations of artificial intelligence, including the principles of machine learning, neural networks and classification algorithms from a qualitative approach. through the use of graphical interfaces that do not require programming knowledge. Self-generative artificial intelligence content is also incorporated, such as chatbots, AI and data analysis and data mining techniques for education, and those related to ethics and privacy in the educational use of AI.
- **VIA632 Instructional Design and AI Tools (3 Credits)** This course is designed to provide participants with the ability to carry out instructional designs of subjects and courses that implement the intensive and practical use of AI tools available to the teacher. Focused on modifying techniques to achieve an instructional design focused on the use of artificial intelligence tools, the course addresses the inclusion of chatbots and self-generative technologies, recommendation systems and applications for sentiment analysis. AI techniques are also addressed for personalizing learning and adapting to the students' learning pace, through case studies and practical examples at the user level, without the need for programming knowledge.
- **VIA641 Institutional Implementation of AI in Education (3 Credits)** This course provides teachers and managers with the necessary skills for the implementation of Artificial Intelligence tools and techniques in educational institutions. It focuses on strategies. Institutional implementation in the different areas and functions, Addresses content related to institutional strategies, the evaluation and measurement of the impact of AI on learning, The evaluation of the improvement in the user experience, as well as the design of training for teachers and the adoption of criteria and production manuals for the application and use of Artificial Intelligence at the educational level in the institution
- **VIA642 Academic Management and Data-based decision making (3 Credits)** This course is designed to strengthen data-driven decision-making skills in the field of academic management. The objective is to complement traditional criteria based only on professional experience, with the valuable information offered by institutional records, especially those of virtual campuses and academic management systems. The course addresses the fundamental concepts of educational analytics, data analysis tools and techniques for academic management, including data visualization, trend analysis and predictive analysis. It also focuses on data-based informed decision-making techniques and the evaluation of the impact of data analytics on decision-making.

- **VED651 The Innovation and Knowledge Ecosystem (3 Credits)** The context of this course is the interaction between the student and a set of interrelated resources that are not linked to a physical or virtual location. This context belongs to an individual and is created through his or her interactions in the world. Students will analyze the learner-based "Resource Ecology" context model as a framework for designing learning environments with technology and understanding the importance of tailoring available resources to the needs of each learner. This interdisciplinary course draws on a number of fields, such as geography, anthropology, psychology, education and computer science, to find the dynamics and greatest potential of teacher-student interaction within a continuous learning process and in a variety of locations.
- **VED652 Research Methodology (3 Credits)** In this course, students will develop a scientific research project that will serve as the basis for the completion of a Master's Thesis. To do this, students must rigorously follow the applicable steps of the scientific method, which includes the part of the research process related to conceptualization and ethics, as well as the description of the qualitative, quantitative or mixed scientific method to follow. Specifically, students will identify and define a problem of interest that warrants the search for a solution and/or answers to questions related to the problem, which have been formulated to improve their understanding; address the problem and/or related questions by conducting background research to gather information to become familiar with what is known about the problem so far and/or the proposed related questions, including their possible answers; They will establish the parameters that will be used to study and understand the selected problem and/or the questions asked. They will conceptualize and design the scientific method that will be applied to carry out the study. They will plan and present a precise and complete research proposal that includes all of the above elements and, in addition, a detailed description of the procedures that will be followed during the execution of the field work, as well as the population that is expected to participate and/or the sampling to be collected for future analysis, and the description of the evaluation method of the information obtained. Students should follow the most up-to-date version of APA guidelines to write their research project. The student must successfully complete this requirement with a grade of B or higher to graduate.
- **VED661 Cloud Learning Environment and Comparative Study (3 Credits)** In this course, students will study the development of virtual education around the world with the intention of comparing experiences and deciding their own point of view on the state of the virtual education. Starting with the definition of cloud computing, why it exists, and what its pros and cons are, this course will provide students with a wide variety of experiences. Students will explore all the features of cloud platforms, infrastructure, services and applications, and security. They will evaluate the value of cloud computing, including licensing models, ROI, understand abstraction, partitioning, virtualization, capacity planning, and various scheduling solutions. You will discuss using Google®, Amazon®, and Microsoft® web services, explore cloud communication methods such as instant messaging, Twitter®, Google Buzz, and Facebook®, and learn how cloud services The cloud is changing mobile phones and vice versa.

- **VED662 Thesis (3 Credits)** In this course students are expected to continue and complete their Master's Thesis. For this purpose, students must systematically follow the scientific method described as part of their previously completed and approved research project. During this final phase, the student must execute the approved procedure to execute the field work, which could be repeated as necessary to ensure that the data collected is accurate and reliable at the time of collection. Compile information obtained from experimentation and/or observation. Carefully record all collected data (observations, measurements, survey information, among other predetermined data) based on the variables evaluated. Analyze the recorded data applying the appropriate methodology; Interpret the results, focusing mainly on providing a solution to the selected problem and/or answering the related questions that have been proposed, without ruling out opportunities to address other aspects of the problem posed that have not been previously identified as objectives, but that are derived of the interpretation of the data obtained. Establish the conclusions inferred from the experimental results and present recommendations that suggest new relevant scientific research. Students must follow the most up-to-date version of APA standards to write their Master's Thesis, and coordinate a final oral presentation, which should 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.