IBU International Business University

Master of Science – Program Outlines

Program Overview

MSc in Applied Artificial Intelligence and Industrial Innovation (AIII)

This program provides students with an in-depth knowledge of applications of artificial intelligence for industrial innovation. Prepare students with the capabilities of developing, selecting, and deploying automation solutions for applications in various business sectors. Develop students with the ability to assess applications of artificial intelligence for service enhancements and innovation. And prepare students with an appreciation of the significance of industrial innovation leveraging the potentials of artificial intelligence while recognizing its limitations.

MSc in Applied Artificial Intelligence and Data Engineering (AIDE)

This program provides students with an in-depth knowledge of applications of artificial intelligence and data engineering techniques. Prepare students with the capabilities of developing, selecting, and deploying AI-driven solutions for various entities and institutions. Develop students with the ability to assess applications of artificial intelligence and deploy data engineering solutions for organizations. And prepare students with an appreciation of the significance of data engineering for artificial intelligence applications while recognizing its limitations.

Program Objectives and Learning Outcomes

Learning Outcome 1: Foundational knowledge of theories and techniques for the potential applications of AI.

Learning Outcome 2: Knowledge of technological trends and innovation shaping the applications of AI in various industries. For the AIII Specialization, graduates are expected to be able to evaluate various emerging AI technologies for industrial innovation, including manufacturing automation and service robotics. For the AIDE Specialization, students are expected to be equipped with data engineering knowledge and techniques required to facilitate the development of AI technologies for applications in various industries.

Learning Outcome 3: Conceptualization of research problems and application of appropriate data analytical tools to inform the analysis through effective communication of results to different audiences.

Learning Outcome 4: Application of theory and best practices using oral and written communication to share appropriate messages, using appropriate media, to persuade a variety of audiences.

Learning Outcome 5: Formulation, analysis and offering of solutions to address a complex problem drawing on a variety of data sources and insights using appropriate models and tools.

Learning Outcome 6: Understanding of ethical and regulatory issues pertinent to AI

applications.

Learning Outcome 7: Understanding of the complex and uncertain environment of emerging technologies and the tools for assessing and mitigating risks.

Curriculum

MSc in Applied Artificial Intelligence and Industrial Innovation (AIII)

M-Management, S-Specializations, RM-Research Methodology, C-Communication, P-Professionalism, A-Application, L-Limitations

		Credit	M	S	RM	C	P	A	L
CURRICULUM	**COURSE**								
	Semester 1								
Stage 1	Fundamentals of Artificial Intelligence	3	✓				✓		✓
	Machine Learning and Deep Learning	3	✓		✓			✓	
	Data Science and Data Mining Techniques	3	✓		✓	✓			
	Human- Computer Interaction Design	3	✓			✓		✓	
Stage 2	**Semester 2**								
	Applications of Artificial Intelligence in Services	3			✓	✓		✓	✓
	Emerging Artificial Intelligence Industries and Ventures	3		✓		✓	✓		
	Industrial Automation, Manufacturing Innovation, and Sustainability	3		✓				✓	
	Robotics for Service Innovation	3		✓				✓	
Stage 3	**Semester 3**								
* Choose 2 out of 3 ** Compulsory	Information Systems and Digital Transformation *	3	✓				✓	✓	✓
	Project Management: Social-Technical Approach *	3	✓			✓	✓	✓	
	Advanced Business Analytics *		✓			✓	✓	✓	
	Artificial Intelligence and Cybersecurity **	3	✓	✓		✓	✓	✓	✓
	Applied Research Methods **	3		✓	✓	✓	✓	✓	✓
Stage 4	**Semester 4**								
	Capstone Project (Artificial Intelligence and Industrial Innovation)	6		✓	✓	✓	✓	✓	✓

IBU International Business University

MSc in Applied Artificial Intelligence and Data Engineering (AIDE)

M-Management, S-Specializations, RM-Research Methodology, C-Communication, P-Professionalism, A-Application, L-Limitations

		Credit	M	S	RM	C	P	A	L
CURRICULUM	**COURSE**								
	Semester 1								
Stage 1	Fundamentals of Artificial Intelligence	3	✓				✓		✓
	Machine Learning and Deep Learning	3	✓		✓			✓	
	Data Science and Data Mining Techniques	3	✓		✓	✓			
	Human-Computer Interaction Design	3	✓			✓		✓	
Stage 2	**Semester 2**								
	Applications of Artificial Intelligence in Services	3			✓	✓		✓	✓
	Data Engineering and Architecture	3		✓		✓	✓		
	Engineering for Data Analysis	3		✓	✓			✓	
	Advanced Engineering for Data Analysis	3		✓				✓	✓
Stage 3	**Semester 3**								
	Information Systems and Digital Transformation *	3	✓				✓	✓	✓
* Choose 2 out of 3 ** Compulsory	Project Management: Social-Technical Approach *	3	✓			✓	✓	✓	
	Advanced Business Analytics *		✓			✓	✓	✓	
	Artificial Intelligence and Cybersecurity **	3	✓	✓		✓	✓	✓	✓
	Applied Research Methods **	3		✓	✓	✓	✓	✓	✓
Stage 4	**Semester 4**								
	Capstone Project (Artificial Intelligence and Data Engineering)	6		✓	✓	✓	✓	✓	✓