

ARTIFICIAL INTELLIGENCE

Artificial Intelligence Specialist

Certificate

The certificate will prepare students with foundational knowledge and skills in the field of AI. The program offers a comprehensive introduction to the principles, concepts, and techniques of artificial intelligence. This includes understanding the history, development, and current applications of AI. Students will have the opportunity to earn various industry certifications related to AI while enrolled in the program. Students will engage in practical projects, which can include developing AI models, working with real-world data sets, and building AI applications.

Artificial Intelligence Specialist

Associate of Applied Science

The associate degree will prepare students for immediate entry into the rapidly growing field of AI-driven technology. This career-focused degree blends foundational theory with hands-on technical training, equipping graduates with practical skills in artificial intelligence, machine learning, cybersecurity, robotics, and data science. Students begin by exploring the history and evolution of artificial intelligence, examining key milestones, influential technologies, and the ethical considerations shaping today's AI landscape. From early symbolic systems to modern deep learning applications, learners develop a strong conceptual understanding of how AI systems are designed and deployed. The curriculum introduces core AI theory, including algorithms, problem-solving strategies, neural networks, and intelligent decision-making models. Students gain experience working with leading AI platforms and development environments used in industry today, preparing them to build and deploy real-world solutions. Students will have the opportunity to earn various industry certifications related to AI while enrolled in the program.

Program Learning Outcomes Certificate

1. Graduates will identify specific artificial intelligence applications in various businesses.
2. Graduates will identify software libraries and tools for building robot applications.
3. Graduates will evaluate open-source developer tools and algorithms related to AI.

Associate of Applied Science

1. Graduates will be able to apply Natural Language Processing to develop applications that bridge the gap between human communication and computer comprehension.
2. Graduates will assess different strategies for data acquisition and refinement.
3. Graduates will assess techniques for integrating different data formats.
4. Graduates will analyze various deep learning techniques.
5. Graduates will identify the various storage systems relevant to machine learning.

Advisory Committee Members

Alex Velasquez, IT Assistant, City of Pharr
Rick Mendoza, Information Technology Director, City of Weslaco

Ray Mendoza, Chief Executive Officer, Mendoza Technologies
Jose Pena, IT Director, City of Pharr
Matthew Navarro, Information Security Analyst, City of McAllen
Dirce Hernandez, Director of CyberPros to Success, Raices Cyber

Certificate

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Associate Degree

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Artificial Intelligence Specialist Certificate

TSI Exempt

Course	Title	Credit Hours
First Year		
Fall		
CYAI 1470	Artificial Intelligence History, Theory, and Platforms	4
CYAI 1471	Introduction to Machine Learning	4
CYAI 1472	Artificial Intelligence in Cybersecurity	4
ITSY 2400	Operating System Security	4
Credit Hours		16
Spring		
ITSC 1416	Linux Installation and Configuration	4
ITSE 2421	Object-Oriented Programming	4
CYAI 2472	Artificial Intelligence Applications & Case History	4
CYAI 2474	Robot Operating System & Platforms in AI	4
Credit Hours		16
Total Credit Hours		32

Artificial Intelligence Specialist Associate of Applied Science

Course	Title	Credit Hours
First Year		
Fall		
CYAI 1470	Artificial Intelligence History, Theory, and Platforms	4
CYAI 1471	Introduction to Machine Learning	4
CYAI 1472	Artificial Intelligence in Cybersecurity	4
ITSY 2400	Operating System Security	4
Credit Hours		16
Spring		
ITSC 1416	Linux Installation and Configuration	4
ITSE 2421	Object-Oriented Programming	4
CYAI 2472	Artificial Intelligence Applications & Case History	4
CYAI 2474	Robot Operating System & Platforms in AI	4
Credit Hours		16
Second Year		
Fall		
PHIL 2306	Introduction to Ethics ¹	3

SPCH 1318	Interpersonal Communications ¹	3
Social and Behavioral Sciences Elective ¹		3
CYAI 2477	Data Science in Artificial Intelligence	4
CYAI 2476	Deep Learning in Artificial Intelligence	4
Credit Hours		17
Spring		
ENGL 1301	Composition I ¹	3
MATH 1332 or MATH 1414	Contemporary Mathematics ¹ or College Algebra	3
CYAI 2473	Natural Language Processing	4
CYAI 2170	Practicum - Artificial Intelligence	1
Credit Hours		11
Total Credit Hours		60

¹ Identifies courses to fulfill minimum 15 credit hour general education requirement.