EXPECTED COURSE OFFERINGS
ARTIFICIAL INTELLIGENCE PROGAM

The schedule below is based on historical patterns and expected scheduling. The semester and location in which a course may be offered *is subject to change* due to instructor availability, student demand, and the need to provide an appropriate balance of subjects and course levels in all semesters. Courses may be offered at the Applied Physics Laboratory (APL) (A), online (O), or Virtual Live (VL), as indicated.

Course Number	Course Name	Summer	Fall	Spring
Prerequisite Courses				
605.101	Introduction to Python	O	O	O
605.206	Introduction to Programming Using Python	O	O	O
605.202	Data Structures	O	O	O
625.240	Introduction to Probability and Statistics		O	O
625.250	Multivariable Calculus and Complex Analysis	O	O	O
625.252	Linear Algebra and Its Applications	O	O	O
Core Courses				
A total of 4 core courses are required:				
705.621 OR	Introduction to Algorithms OR	O	O	O
685.621	Algorithms for Data Science	O	O	O
Followed by these 3 courses:				
705.601	Applied Machine Learning	O	O	O
705.603	Creating AI-Enabled Systems	O	O	O
605.645	Artificial Intelligence	O	O	O
Electives				
Take at least 6 of the following courses:	**Summer**	**Fall**	**Spring**
705.604	Optimizing and Deploying Scalable AI Systems			VL
705.605	Introduction to Generative AI		VL	

705.612	Values and Ethics in Artificial Intelligence		O/VL	VL
705.615	Artificial Intelligence for Leaders		O	
705.640	Cognitive and Behavioral Foundations for Artificial Intelligence		VL	VL
705.643	Deep Learning Developments with PyTorch	VL	VL	VL
705.651	Large Language Models: Theory and Practice		VL	
705.741	Reinforcement Learning			VL
705.742	Advanced Applied Machine Learning		VL	VL
705.743	ChatGPT from Scratch: Building and Training Large Language Models	VL		
705.744	Computer Vision Using Transformers		VL	
605.613	Introduction to Robotics		VL	VL
605.617	Introduction to GPU Programming		O	O
605.624	Logic: Systems, Semantics, and Models			O
605.633	Social Media Analytics		O	O
605.634	Crowdsourcing and Human Computation		O	O
605.635	Cloud Computing		O	O
605.646	Natural Language Processing		O/A	
605.647	Neural Networks		VL	O
605.649	Introduction to Machine Learning	O	O/VL	O/VL
605.662	Data Visualization	O	O	O
605.716	Modeling and Simulation of Complex Systems			VL
605.724	Applied Game Theory			O
605.742	Deep Neural Networks	O	O	O
605.743	Advanced Artificial Intelligence		O	
605.745	Reasoning Under Uncertainty		O	
605.746	Advanced Machine Learning			O
605.747	Evolutionary and Swarm Intelligence		O	O
695.637	Introduction to Assured AI and Autonomy		O	
695.715	Assured Autonomy		O/VL	
645.651	Integrating Humans and Technology		O	O

Course	Title			
635.603	AI/ML Ops		VL	
525.661	UAV Systems and Control		O	O
525.670	Machine Learning for Signal Processing		O	O
525.724	Introduction to Pattern Recognition		VL	
525.733	Deep Learning for Computer Vision			VL
525.770	Intelligent Algorithms		O	O
525.786	Human Robotics Interaction			A
Independent Study				
705.801	Independent Study in Artificial Intelligence I	IS	IS	IS
705.802	Independent Study in Artificial Intelligence II	IS	IS	IS
605.xxx see the Computer Science Program; 625.xxx see the Applied and Computational Math Program;				
645.x see the Systems Engineering Program;685.xxx see the Data Science Program;				
695.xxx see the Cybersecurity Program; 525.xxx see the Electrical and Computer Engineering Program				