

To successfully follow the **MIRS Master's program**, students should have a foundational understanding of various fields. The following courses are designed to help prepare you for the upcoming year and facilitate your studies by providing essential knowledge and skills.

Python Knowledge:

To successfully follow our program, a basic understanding of Python is required. We recommend that prospective students reach at least the PCAP level. While obtaining the official certificate is not necessary, we do expect you to be familiar with the topics covered in the PCAP exam. Simply passing the test or self-studying the equivalent material is sufficient.

Also since the program includes AI modeling, simulations, and robotics, a personal **laptop with a dedicated GPU is highly** recommended to handle computational tasks efficiently. The laptop should have good processing power, sufficient RAM, and SSD storage to support AI training and simulations.

Course title	Link	Subject
Artificial Intelligence for Robotics	https://www.udacity.com/course/artificial-intelligencefor-robotics--cs373	Autonomous Systems and Probabilistic Robotics
Neural Networks and Deep Learning	https://www.coursera.org/learn/neural-networks-deep-learning?specialization=deep-learning	Machine Learning
CS223A - Introduction to Robotics	https://see.stanford.edu/Courses/CS223A	Robot Manipulation
Robot Kinematics	https://www.coursera.org/learn/modernrobotics-course2	Robot Manipulation and Hands-on Intervention
Robotic Path Planning and Task Execution	https://www.coursera.org/learn/robotic-path-planning-task-execution#outcomes	Hands-on Planning
Dive into Deep Learning	https://d2l.ai/	Deep Network Development
Deep Learning specialization	https://www.coursera.org/specializations/deep-learning	Deep Network Development
Convolutional Neural Networks for Visual Recognition	https://www.youtube.com/playlist?list=PL3FW7Lu3i5JvHM8ljYj-zLfQRF3EO8sYv	Deep Network Development