ROBOTICS AND ARTIFICIAL INTELLIGENCE (ON-CAMPUS – SEPTEMBER START – FULL TIME) (MSc/PgDip/PgCert)

57H6RSB1/61H6SRVX/62H6RSVZ

Duration: MSc 12 months full-time; PgDip 9 months full-time; PgCert 4 months full-time.

Content: The MSc in Robotics and Artificial Intelligence applies core concepts in engineering and computer science to develop an understanding of the design, operation, control and integration of robots and Artificial Intelligence techniques to industrial processes. The programme starts by introducing fundamental concepts in robot kinematics and dynamics, bioinspiration, soft robotics, sensing and instrumentation, machine learning, computer vision, data mining, path planning, Artificial Intelligence etc, to enable students develop an overall appreciation of the technical challenges that need to be overcome in successful integration of robots in the industry. It also introduces students to the state-of-the-art in industrial automation.

Students will undertake the project and complete the dissertation in Robotics and Artificial Intelligence which will be defined to be research or industrial relevant.

Candidates shall be required to attend the following designated programme of courses:

Stage 1

PD5006	Getting Started at the University of Aberdeen (0 Credit Points)
CS5062	Machine Learning (15 Credit Points)
CS5079	Applied Artificial Intelligence (15 Credit Points)
EG504M	Introduction to Mobile Robotics and Bioinspiration (15 Credit Points)
EG505P	Intelligent Robotics for Energy Infrastructure (15 Credit Points)

Stage 2

CS551K	Software Agents and Multi-Agent Systems (15 Credit Points
CS552J	Data Mining with Deep Learning (15 Credit Points)
EG554V	Kinematics and Dynamics of Industrial Robot Arms (15 Credit Points)
EG554W	Industrial Robot Programming and Learning (15 Credit Points)

Stage 3 (for MSc candidates only)

EG59F1	MSc Individual Project [in Robotics and Artificial Intelligence] (60 Credit Points)

Assessment: By a combination of written examination and course work as prescribed for each course. In addition, MSc candidates must submit a dissertation on their individual project and may be required to undergo an oral examination. The Degree of MSc shall not be awarded to a candidate who fails to achieve a CGS Grade of D3 or above in the individual project, irrespective of their performance in other courses.