

**Technion Autonomous Systems Program - courses**

**List A**

Credit	Course name	faculty	Course no.
2.5	Multi Dimensional Remote Sensing	Civil Engineering	018819
4	Signal Image and Data Processing	Computer Science	236200
3	Introduction to Computer Networks	Computer Science	236334
3	Introduction to Artificial Intelligence	Computer Science	236501
3	Introduction to Machine Learning	Computer Science	236756
3	Digital Image Processing	Computer Science	236860
3	Geometric Computer Vision	Computer Science	236861
3	Sparse and Redundant Representations	Computer Science	236862
3	Computer Vision	Computer Science	236873
3	Introduction to Robotics	Computer Science	236927
2.5	Kinematics Dynamics & Control of Robots	Mechanical Engineering	036026
3	Robot Path-Planning and Sensor Based Navigation	Mechanical Engineering	036044
3	Kinematics in Biomechanics and Robotics	Mechanical Engineering	036072
3	Hybrid Dynamics in Mechanical Systems	Mechanical Engineering	036087
2	Advanced Topics in Robotics	Mechanical Engineering	038785
3	Machine Learning	Electrical Engineering	046195
2	Est. , Identification in Dynamic Systems	Electrical Engineering	048825
2	Image Processing	Electrical Engineering	048860
2	Machine Learning for Complex Problems	Electrical Engineering	049058

3	Networked Dynamic Systems	Aerospace Engineering	086730
3	Vision-Aided Navigation	Aerospace Engineering	086761
3	Autonomous Navigation and Perception	Aerospace Engineering	086762
3	Fundamentals in Estimation Theory	Aerospace Engineering	086777
3.5	Foundations and Applications of AI	Industrial Engineering and Management	096210
3.5	Deep Learning	Industrial Engineering and Management	097200
2.5	Cognitive Robotics	Industrial Engineering and Management	097244

**List B**

Credit	Course name	faculty	Course no.
2.5	Navigation and Inertial Systems	Civil Engineering	016832
3	Systems and Control	Civil Engineering	017003
3	Design of Control Systems	Civil Engineering	017004
2.5	Selected Subjects in Vehicle Dynamics	Civil Engineering	017010
2	Advanced Image Acquisition Methods	Civil Engineering	018818
2	Advanced Application of Navigation Sys	Civil Engineering	018827
3	Digital Geometry Processing	Computer Science	236329
3	Project in Computer Communication	Computer Science	236340
3	Distributed Systems	Computer Science	236351
2	Advanced Topics in Distributed Algorithm	Computer Science	236358
3	Pro. in Parallel/distributed Programming	Computer Science	236371
3	Advanced Topics in Comp. Vision	Computer Science	236627
3	Advanced Topics in Robotics	Computer Science	236643
3	Project in Intelligent Systems	Computer Science	236754
3	Deep Learning on Computation	Computer Science	236781
2	Seminar in Image Processing	Computer Science	236821
2	Seminar in Robotics	Computer Science	236824
3	Project in Computer Vision	Computer Science	236874
3	Visual Recognition	Computer Science	236875
3	Linear Control Systems	Mechanical Engineering	036012
3	Process Optimization	Mechanical Engineering	036013
2.5	Computational Geometry 1	Mechanical Engineering	036020
3	Control of Structures and Mechanical	Mechanical Engineering	036039
3	Analysis of Nonlinear Vibrations	Mechanical Engineering	036048
2.5	Neural Networks for Control/diagnostic	Mechanical engineering	036049

3	Nonlinear Control Systems	Mechanical Engineering	036050
3	Info-Gap Analysis of Risk and Reliability	Mechanical Engineering	036057
3	Biological Movement Control	Mechanical Engineering	036092
3	Robust Guidance and Control Via Min-Max	Mechanical Engineering	038781
3	Introduction to Chaotic Dynamical System	Mechanical Engineering	038786
3	Time-Delays in Control and Estimation	Mechanical Engineering	038806
3	Advanced Issues in Design and Production	Education in Science and Technology	216144
2.5	Ultrasound in Medicine Principles Appl.	Biomedical Engineering	336325
2.5	Principles of Medical Imaging	Biomedical Engineering	336502
3	Introduction to Control in Bio-Medical	Biomedical Engineering	336522
3	Nonlinear Control Systems	Electrical Engineering	046196
3	Computational Methods	Electrical Engineering	046197
3	Image Processing and Analysis	Electrical Engineering	046200
3	Distributed System Principles	Electrical Engineering	046272
3	Information Theory	Electrical Engineering	046733
3	Algorithms and Application	Electrical Engineering	046746

3	Foundations of Stochastic Processes	Electrical Engineering	046868
2	Modern Control Systems Design	Electrical Engineering	048912
3	Embedded Computer Systems Analysis	Aerospace Engineering	086222
3	Control of Multi-Input Multi-Output Syst	Aerospace Engineering	086289
3	Satellite Orbit Control	Aerospace Engineering	086290
3	Random Processes in Aerospace Systems	Aerospace Engineering	086733
3	Dynamics and Control of Flight Vehicles	Aerospace Engineering	086755
3	Navigation Systems	Aerospace Engineering	086759
3	Principles of Guidance and Homing	Aerospace Engineering	086760
2	Missile Guidance Analysis	Aerospace Engineering	088211
3	Optimal Control in Flight Systems 1	Aerospace Engineering	088751
3	Advanced Topics in Missile Guidance	Aerospace Engineering	088759
3	Distributed Spacecraft Systems	Aerospace Engineering	088900
3.5	Automatic Planning	Industrial Engineering and Management	096208
2.5	Distributed Artificial Intelligence	Industrial Engineering and Management	097210
2.5	Cooperative Game Theory	Industrial	097317

		Engineering and Management	
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**List C**

Credit	Course Name	Faculty	Course Number
3	Fundamental Mathematics for Engineers	Civil Engineering	019001
3	Numerical Methods in Engineering	Civil Engineering	019003
3	Selected Topics in Statistics	Civil Engineering	019007
2	Spares sparse representations and their applications to signal and image processing	Computer science	236862
4	Analytical Methods in Mechanical Eng.1	Mechanical Engineering	036001
3	Applied Math for Aeronautical Engineers1	Aerospace Engineering	88103
3.5	Nonlinear Models in Operations Research	Industrial Engineering and Management	096327
3.5	Non-Cooperative Games	Industrial Engineering and Management	096575
3.5	Optimization 1	Industrial Engineering and Management	098311
3.5	Stochastic Processes	Industrial Engineering and Management	098413
3	Game Theory	Mathematics	106173
3	Matrix Theory	Mathematics	106393
2.5	.Functional Analysis for E.E	Mathematics	108327

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