

MXET - MULTIDISCIP ENGR TECH (MXET)

MXET 300 Mechatronics I – Mobile Robotic Systems

Credits 3. 2 Lecture Hours. 3 Lab Hours.

Mechanical, electronic, software, control and communications aspects of embedded intelligence-based electromechanical systems with a focus on mobile robotic platforms.

Prerequisites: Grade of C or better in MXET 375, PHYS 207, and ENGR 217/PHYS 217 or PHYS 217/ENGR 217; grade of C or better in ESET 359 and ESET 369 or concurrent enrollment.

MXET 375 Applied Dynamic Systems

Credits 3. 2 Lecture Hours. 3 Lab Hours.

Study of translational mechanical system dynamics, rotational mechanical system dynamics, electrical system dynamics modeling, electro-mechanical/mechatronics system dynamics, fluid power dynamics and 2 dimensional rigid body dynamics.

Prerequisites: Grade of C or better in MMET 275; junior or senior classification in an engineering technology major.

MXET 400 Mechatronics II – Industrial Robotic Systems

Credits 3. 2 Lecture Hours. 3 Lab Hours.

Study and analysis of industrial robotics and automation processes necessary for robot-centric work cell design and operation.

Prerequisites: Grade of C or better in MXET 300; grade of C or better in ESET 462 or concurrent enrollment, junior or senior classification in multidisciplinary engineering technology.

MXET 485 Directed Studies

Credits 1 to 6. 1 to 6 Other Hours.

Directed study of selected problems in an in an area of multidisciplinary engineering technology not covered in other courses. May be repeated for credit.

Prerequisites: Senior classification and approval of instructor.

MXET 491 Research

Credits 0 to 4. 0 Lecture Hours. 0 Lab Hours. 0 to 4 Other Hours.

Research conducted under the direction of faculty member in the college of engineering. May be repeated three times for credit.

Prerequisites: Junior or senior classification and approval of instructor.

MXET 600 Mechatronics II

Credits 3. 2 Lecture Hours. 3 Lab Hours.

Focus on up-to-date knowledge and theories on robotic manipulation and industrial robots; exploration of rigidbody motions, forward and inverse kinematics, differential kinematics, forward and inverse dynamics of robotic manipulator, motion planning and control theories.