MXET - MULTIDISCP 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 635 Advanced Applied Dynamics for Mechatronic Systems  
Credits 3. 3 Lecture Hours.  
Translational mechanical system dynamics, rotational mechanical system dynamics, electrical system dynamics modeling, mechatronics system dynamics, fluid power dynamics, rigid body dynamics and applied dynamics modeling using finite element method; automotive, oil and gas drilling and robotic applications.  
**Prerequisites:** Graduate classification or approval of instructor.

MXET 681 Seminar  
Credit 1. 1 Other Hour.  
Selected topics presented by the faculty, students and outside speakers.  
**Prerequisites:** Graduate classification or approval of instructor.

MXET 684 Professional Internship  
Credits 1 to 6. 0 Lecture Hours. 1 to 6 Other Hours.  
Directed internship in an organization to provide students with on-the-job training with professionals in settings appropriate to the students’ professional objectives. Must be taken on a satisfactory/unsatisfactory basis.  
**Prerequisite:** Graduate classification in Master of Science in Engineering Technology.

MXET 685 Directed Studies  
Credits 1 to 12. 1 to 12 Other Hours.  
Directed study of topics not within scope of thesis research and not covered by other formal courses. May be repeated for credit.  
**Prerequisites:** Graduate classification or approval of instructor.

MXET 689 Special Topics in...  
Credits 1 to 4. 1 to 4 Other Hours.  
Selected topics in an identified area of engineering technology. May be repeated for credit.  
**Prerequisites:** Graduate classification or approval of instructor.

MXET 691 Research  
Credits 1 to 23. 1 to 23 Other Hours.  
Research for thesis or dissertation. May be repeated for credit.  
**Prerequisites:** Graduate classification or approval of instructor.

MXET 692 Professional Study  
Credits 1 to 23. 1 to 23 Other Hours.  
Approved professional study of project.  
**Prerequisites:** Approval of Instructor.