



Master of Science in Mechanical Engineering (M.S.M.E. Degree)
2019 – 2020 Catalog

Name: _____ **Date:** _____

Degree Courses	Completed	Future	Sem/Year
Electrical and Power Systems – (1 Required - 3 credits)			
ETLS 511 Circuit Analysis			
ETLS 512 Control Systems & Automation			
ETLS 744 Intro to Power Systems			
ETLS 746 Power Electronics			
ETLS 747 Electrical Machines			
ETLS 748 Renewable Energy Generation			
Advanced Thermal & Fluid Systems – (1 Required - 3 credits)			
ETLS 591 Advanced Thermal Systems (Heat transfer and fluid mechanics knowledge, or ETLS 741, are a prerequisite for this course)			
ETLS 699 Introduction to Propulsion			
ETLS 741 Heat Transfer & Fluid Mechanics			
Materials & Mechanics (1 Required – 3 credits)			
ETLS 699 Advanced Mechanics of Materials, Composites			
ETLS 723 Biomaterials in the Design of Medical Devices			
ETLS 771 Materials Engineering			
ETLS 775 Polymers in Design			
Manufacturing (1 Required – 3 credits)			
ETLS 501 Production Operating Systems			
ETLS 502 Manufacturing Processes			
ETLS 506 Statistical Methods for Manufacturing Quality			
ETLS 520 Design & Manufacturing in the Medical Device Industry			
ETLS 770 Automated Control of Manufacturing Processes			
Design & Product Development (1 Required – 3 credits)			
ETLS 555 Advanced Product Design			
ETLS 699 New Product Design and Business Development I			
ETLS 777 Finite Element Analysis			
Mechanical Systems (1 Required – 3 credits)			
ETLS 774 Introduction to Mechatronics			
ETLS 777 Finite Element Analysis			
ETLS 789 Simulation & Visualization of Dynamic Systems			
ETLS 810 Advanced Controls			
Engineering Project Options (Choose 1 Option – 6 credits) (Must be pre-approved by Advisor)			
Option 1 - ETLS 881 Engineering Project (6 credits)			
Option 2 - choose any two additional courses not previously taken to meet individual professional objectives. (6 credits).			
Electives (2 Course Required) – 6 credits (Must be pre-approved by Advisor)			
Choose two additional courses to meet individual objectives.			