

# CURRICULUM SHEET

## Master of Science in Engineering Aerospace Engineering Emphasis Curriculum Year: 2020-2021

<b>Major Courses – Required Major Core</b>		
<b>Course Number</b>	<b>Course Title</b>	<b>Units</b>
EGR 5110	Numerical Methods	3
	<i>Select minimum of 3 units from the following:</i>	
EGR 6910	Directed Study	1
EGR 6950	Master's Degree Project	2
<b>Total Number of MAJOR CORE units:</b>		<b>6</b>

<b>Required Emphasis Courses for <i>Aerospace Engineering</i></b>		
<b>Course Number</b>	<b>Course Title</b>	<b>Units</b>
ARO 5060	Aerospace Structures	3
ARO 5090	Astronautics	3
ARO 5100	Airbreathing Propulsion Systems	3
ARO 5450	Optimal Control & Estimation	3
ARO 5770	Aerodynamics of Wings and Bodies	3
<b>Total of Emphasis Core Units</b>		<b>15</b>

<b>Elective Emphasis Courses for <i>Aerospace Engineering</i></b>		
<b>Course Number</b>	<b>Course Title</b>	<b>Units</b>
	<i>Select minimum of 9 units from the following elective Courses:</i>	
ARO 5080	Finite Element Analysis of Structures	3
ARO 5140	Rocket Propulsion	3
ARO 5150	Missile Engineering	3
ARO 5180	Computational Fluid Dynamics	3
ARO 5210	Helicopter Aerodynamics and Performance	3
ARO 5220	Robust Control of Nonlinear Systems	3
ARO 5230	Structural Dynamics	3
ARO 5280	Hypersonic Aerodynamics	3
ARO 5330	Digital Flight Control Systems	3
ARO 5430	Aircraft System Identification	3
ARO 5460	Orbit Determination and Estimation	3
ARO 5780	Aircraft Stability	3
ARO 5810	Spacecraft Design	3
ARO 5910	Aircraft Design	3
ARO 5950	Boundary Layer Concepts	3
EGR 5090	Advanced Differential Equations	3
EGR 5120	Vector Analysis and Complex Variables	3
EGR 5130	Engineering Tensor Analysis	3
EGR 5150	Matrix Methods in Engineering	3
EGR 5360	Composite Materials	3
EGR 5990	Special Topics for Graduate Students	3
<b>Total of Emphasis Core Units</b>		<b>9</b>

## MSE-AE ROADMAP

*Your department has developed this road plan, taking into account prerequisites and schedule restrictions. You should pay attention to these concerns when deviating from this plan.*

	Fall	Units	Spring	Units	Summer	Units
<b>Y1</b>	<b>ARO 5060</b> Emphasis Core	3	<b>ARO 5090</b> Emphasis Core	3	<b>ARO 5100</b> Emphasis Core	3
	<b>EGR 5110</b> Major Core	3	<b>Elective</b> Emphasis Elective	3		
	<b>Total Units</b>	<b>6</b>	<b>Total Units</b>	<b>6</b>	<b>Total Units</b>	<b>3</b>
<b>Total Units for Year</b>						<b>15</b>

	Fall	Units	Spring	Units	Summer	Units
<b>Y2</b>	<b>ARO 5450</b> Emphasis Core	3	<b>ARO 5770</b> Emphasis Core	3	<b>Elective</b> Emphasis Elective	3
	<b>Elective</b> Emphasis Elective	3	<b>EGR 6910</b> Major Core	1	<b>EGR 6950</b> Major Core	2
	<b>Total Units</b>	<b>6</b>	<b>Total Units</b>	<b>4</b>	<b>Total Units</b>	<b>5</b>
<b>Total Units for Year</b>						<b>15</b>

<b>Total Units on Plan</b>	<b>30</b>	<b>Comment</b>
MSE Core Units	<b>6</b>	<i>Students take MS project EGR 6920 and 6910 or the MS thesis EGR 6960 for a minimum of 3 units</i>
Emphasis Core Units	<b>15</b>	
Emphasis Elective Units	<b>9</b>	