

<b>SCHOOL OF ENGINEERING</b>			
<b>Degree: MASTER OF SCIENCE IN MECHANICAL ENGINEERING</b>		<b>CURRICULUM</b>	
<b>Credits: 30</b>		<b>Since: August 2017</b>	
<b>Program: AEROSPACE ENGINEERING</b>			
<p><b>Description:</b> This specialization will provide the necessary tools in design, computational analysis, and fundamentals of aerospace engineering to advance the interests of this sector. Elective courses are divided into two areas: 1. Structures/Mechanics, and 2. Aerodynamics/Propulsion. You may select courses from both branches. This specialization requires a Bachelor's degree in mechanical engineering or aerospace engineering. Plan 1 (M.S. degree-Thesis). Plan 1 is an excellent option for full-time students with a strong interest in research.</p>			
<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Requisites</b>
<b>Required Courses (12 crs)</b>			
MEEN 501	Finite Element Analysis	3	
MEEN 503	Fundamentals of Aerospace Engineering	3	
MEEN 601	Advanced Mathematics for Engineers	3	
MEEN 604	Aerodynamics 1: Incompressible Flow	3	
<b>Specialization Courses (select 4 courses: 12 crs)</b>			
MEEN 502	Aircraft Design	3	
MEEN 612	Aerospace Structural Analysis	3	
MEEN 613	Flight Mechanics	3	
MEEN 614	Propulsion Systems	3	
MEEN 615	Aerodynamics II: Compressible Flow	3	MEEN 604
MEEN 622	Boundary Layers	3	
MEEN 624	Combustion	3	
MEEN 628	Advanced Topics in Aerospace	3	
MEEN 629	Independent Study in Aerospace	3	
*MEEN 611	Composite Materials	3	
*MEEN 616	Introduction to Aeroelasticity	3	
*MEEN 617	Dynamics of Rotating Machinery	3	
*MEEN 623	Multi-Scale Turbulence: Aeronautics	3	
*MEEN 630	Engineering Internship I	1	Permission of the Department Head
*MEEN 631	Engineering Internships II	1	MEEN 630 and Permission
*MEEN 672	Mechanical Vibrations	3	
*MEEN 673	Computational Fluid Dynamics (CFD)	3	
*MEEN 676	Design Optimization	3	
*MEEN 682	Systems Engineering	3	
*MEEN 683	Friction, Wear and Lubrication	3	
*MEEN 684	Advanced Tribology	3	MEEN 683
*MEEN 685	Applied Modern Control	3	
* (Asterisk)	(Course is also available in other specialization areas)		
<b>Degree Requirements (6 crs)</b>			
MEEN 697	MS Thesis	6	Permission of Thesis Advisor

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<b>Program: AEROSPACE ENGINEERING</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Requisites</b>
<b>FIRST YEAR - FIRST SEMESTER</b>			
MEEN 501	Finite Element Analysis	3	
MEEN 601	Advanced Mathematics for Engineers	3	
MEEN 604	Aerodynamics 1: Incompressible Flow	3	
		<b>9</b>	
<b>FIRST YEAR - SECOND SEMESTER</b>			
MEEN 503	Fundamentals of Aerospace Engineering	3	
(MEEN course)	Any Aerospace Engineering Specialization, Alternative Energy Specialization, or General Course	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
		<b>9</b>	
<b>SECOND YEAR – FIRST SEMESTER</b>			
MEEN 697	MS Thesis (Aerospace Engineering topic counts toward 12-cr minimum for the Aerospace Engineering Specialization)	3	Permission of Thesis Advisor
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
(MEEN course)	Any Aerospace Engineering Specialization, Alternative Energy Specialization, or General Course	3	
		<b>9</b>	
<b>SECOND YEAR - SECOND SEMESTER</b>			
MEEN 697	MS Thesis (Aerospace Engineering topic counts toward 12-cr minimum for the Aerospace Engineering Specialization)	3	Permission of Thesis Advisor
		<b>3</b>	

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<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Requisites</b>
<b>Required Courses (12 crs)</b>			
MEEN 501	Finite Element Analysis	3	
MEEN 503	Fundamentals of Aerospace Engineering	3	
MEEN 601	Advanced Mathematics for Engineers	3	
MEEN 604	Aerodynamics 1: Incompressible Flow	3	
<b>Specialization Courses (select 5 courses)</b>			
MEEN 502	Aircraft Design	3	
MEEN 612	Aerospace Structural Analysis	3	
MEEN 613	Flight Mechanics	3	
MEEN 614	Propulsion Systems	3	
MEEN 615	Aerodynamics II: Compressible Flow	3	MEEN 604
MEEN 622	Boundary Layers	3	
MEEN 624	Combustion	3	
MEEN 628	Advanced Topics in Aerospace	3	
MEEN 629	Independent Study in Aerospace	3	
*MEEN 611	Composite Materials	3	
*MEEN 616	Introduction to Aeroelasticity	3	
*MEEN 617	Dynamics of Rotating Machinery	3	
*MEEN 623	Multi-Scale Turbulence: Aeronautics	3	
*MEEN 630	Engineering Internship I	1	Permission of the Department Head
*MEEN 631	Engineering Internships II	1	MEEN 630 and Permission
*MEEN 672	Mechanical Vibrations	3	
*MEEN 673	Computational Fluid Dynamics (CFD)	3	
*MEEN 676	Design Optimization	3	
*MEEN 682	Systems Engineering	3	
*MEEN 683	Friction, Wear and Lubrication	3	
*MEEN 684	Advanced Tribology	3	MEEN 683
*MEEN 685	Applied Modern Control	3	
* (Asterisk)	(Course is also available in other specialization areas)		
<b>Degree Requirements (3 crs)</b>			
MEEN 694	Special Project	3	Permission of Advisor

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<b>Degree: MASTER OF SCIENCE IN MECHANICAL ENGINEERING</b> <b>Credits: 30</b>		<b>PLAN OF STUDY</b> <b>Since: August 2017</b> Plan 2 (M.S. Degree-Special Project). Plan 2 is ideal to conduct design and development in an area of particular interest	
<b>Program: AEROSPACE ENGINEERING</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Requisites</b>
<b>FIRST YEAR - FIRST SEMESTER</b>			
MEEN 501	Finite Element Analysis	3	
MEEN 601	Advanced Mathematics for Engineers	3	
MEEN 604	Aerodynamics 1: Incompressible Flow	3	
<b>FIRST YEAR - SECOND SEMESTER</b>			
MEEN 503	Fundamentals of Aerospace Engineering	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
<b>SECOND YEAR – FIRST SEMESTER</b>			
(MEEN course)	Any Aerospace Engineering Specialization, Alternative Energy Specialization, or General Course	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
(MEEN course)	Any Aerospace Engineering Specialization, Alternative Energy Specialization, or General Course	3	
<b>SECOND YEAR - SECOND SEMESTER</b>			
MEEN 694	Special Project (Aerospace Engineering topic counts toward 12-cr minimum for the Aerospace Engineering Specialization)	3	Permission of Advisor

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<b>Program: AEROSPACE ENGINEERING</b>			
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<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Requisites</b>
<b>Required Courses</b>			
MEEN 501	Finite Element Analysis	3	
MEEN 503	Fundamentals of Aerospace Engineering	3	
MEEN 601	Advanced Mathematics for Engineers	3	
MEEN 604	Aerodynamics 1: Incompressible Flow	3	
<b>Specialization Courses (select 6 courses)</b>			
MEEN 502	Aircraft Design	3	MEEN 604
MEEN 612	Aerospace Structural Analysis	3	
MEEN 613	Flight Mechanics	3	
MEEN 614	Propulsion Systems	3	
MEEN 615	Aerodynamics II: Compressible Flow	3	
MEEN 622	Boundary Layers	3	
MEEN 624	Combustion	3	
MEEN 628	Advanced Topics in Aerospace	3	
MEEN 629	Independent Study in Aerospace	3	
*MEEN 611	Composite Materials	3	
*MEEN 616	Introduction to Aeroelasticity	3	
*MEEN 617	Dynamics of Rotating Machinery	3	
*MEEN 623	Multi-Scale Turbulence: Aeronautics	3	
*MEEN 630	Engineering Internship I	1	Permission of the Department Head
*MEEN 631	Engineering Internships II	1	MEEN 630 and Permission
*MEEN 672	Mechanical Vibrations	3	
*MEEN 673	Computational Fluid Dynamics (CFD)	3	MEEN 683
*MEEN 676	Design Optimization	3	
*MEEN 682	Systems Engineering	3	
*MEEN 683	Friction, Wear and Lubrication	3	
*MEEN 684	Advanced Tribology	3	
*MEEN 685	Applied Modern Control	3	
* (Asterisk)	(Course is also available in other specialization areas)		

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<b>Program: AEROSPACE ENGINEERING</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Requisites</b>
<b>FIRST YEAR - FIRST SEMESTER</b>			
MEEN 501	Finite Element Analysis	3	
MEEN 601	Advanced Mathematics for Engineers	3	
MEEN 604	Aerodynamics 1: Incompressible Flow	3	
<b>FIRST YEAR - SECOND SEMESTER</b>			
MEEN 503	Fundamentals of Aerospace Engineering	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
<b>SECOND YEAR – FIRST SEMESTER</b>			
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
(Specialization course)	Any Aerospace Engineering Specialization Course	3	
(MEEN course)	Any Aerospace Engineering Specialization, Alternative Energy Specialization, or General Course	3	
<b>SECOND YEAR - SECOND SEMESTER</b>			
(MEEN course)	Any Aerospace Engineering Specialization, Alternative Energy Specialization, or General Course	3	

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