FALL 2025 SCHEDULE

FAMU	FSU	Course	#	FAMU sect	FSU sect	Course Title	Course Description	Credits	INSTRUCTOR	BEGIN	END	DAYS	Room	Bldg
SERVICE COURSE														
3789 EML4930(3)	12624	EMA	4513	1	1	Microstructural Characterization of Materials	The course introduces the tools for characterizing microstructure in materials: diffraction techniques (x-ray, neutron and electron), electron microscopy (scanning and transmission), spectroscopy (electron, x-ray), and surface and scanning probe methods. Selecting the right tool for a materials problem is a focus of the course.	3	Murray Gibson - jmgibson@eng.famu.fsu.edu	2:00PM	3:15PM	T R	A223	COEA/CE1
2021(EML5930(4)	12625	EMA	5515	1	1	Microstructural Characterization of Materials	The course introduces the tools for characterizing microstructure in materials: diffraction techniques (x-ray, neutron and electron), electron microscopy (scanning and transmission), spectroscopy (electron, x-ray), and surface and scanning probe methods. Selecting the right tool for a materials problem is a focus of the course.	3	Murray Gibson - jmgibson@eng.famu.fsu.edu	2:00PM	3:15PM	T R	A223	COEA/CE1
1834	2652	EML	3004	301	1	Engineering Statics	This course covers engineering statics, and a basic introduction to engineering design and analysis. It equips student with the fundamental knowledge and tools required for their subsequent courses in the broad area of engineering mechanics.	3	Brandon Krick - bkrick@eng.famu.fsu.edu	11:00AM	12:15PM	T R	B210	COEB/CE2
		EML	3004	301	1	Engineering Statics (Recitation)	This course covers engineering statics, and a basic introduction to engineering design and analysis. It equips student with the fundamental knowledge and tools required for their subsequent courses in the broad area of engineering mechanics.		Brandon Krick - bkrick@eng.famu.fsu.edu	6:30PM	8:30PM	W	B114	COEB/CE2
3396	2713	EML	3004	302	2	Engineering Statics	This course covers engineering statics, and a basic introduction to engineering design and analysis. It equips student with the fundamental knowledge and tools required for their subsequent courses in the broad area of engineering mechanics.	3	Jizhe Cai - jcai@eng.famu.fsu.edu	9:30AM	10:45AM	T R	B136	COEB/CE2
		EML	3004	302	2	Engineering Statics (Recitation)	This course covers engineering statics, and a basic introduction to engineering design and analysis. It equips student with the fundamental knowledge and tools required for their subsequent courses in the broad area of engineering mechanics.		Jizhe Cai - jcai@eng.famu.fsu.edu	6:30PM	8:30PM	W	A337	COEA/CE1
1832	2668	EML	3102	301	1	Engineering Thermodynamics	This course introduces basic concepts in engineering thermodynamics; thermodynamic properties of solids, liquids, and gases; and the first and second laws of thermodynamics.	3	Alexandre Berger - aberger@eng.famu.fsu.edu	3:30PM	4:45 PM	M W	B221	COEB/CE2
3084	2735	EML	3102	301	2	Engineering Thermodynamics	This course introduces basic concepts in engineering thermodynamics; thermodynamic properties of solids, liquids, and gases; and the first and second laws of thermodynamics.	3	Huixuan Wu - hw23m@fsu.edu	3:30PM	4:45 PM	M W	B136	COEB/CE2
1833	2669	EML	3002L	L01	1	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.	3	Keith Larson - larson@eng.famu.fsu.edu	12:30PM	1:45 PM	T R	B114	COEB/CE2
		EML	3002L	L01	1	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.		Keith Larson - larson@eng.famu.fsu.edu	2:00PM	5:00PM	F	B114	COEA/CE1
3045	2734	EML	3002L	L02	2	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.	3	Keith Larson - larson@eng.famu.fsu.edu	9:30AM	10:45AM	T R	A337	COEB/CE2
		EML	3002L	L02	2	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.		Keith Larson - larson@eng.famu.fsu.edu	10:45AM	1:45PM	F	B114	COEA/CE1
3782	11067	EML	3002L	LO3	3	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.	3	Keith Larson - larson@eng.famu.fsu.edu	11:00AM	12:15PM	M	A144	
		EML	3002L	LO3	3	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.		Keith Larson - larson@eng.famu.fsu.edu	11:00AM	12:15PM	W	B114	
		EML	3002L	LO3	3	ME Tools Lab	This course covers computer aided design and drafting, programming, machining, and a basic introduction to the mechanical engineering profession and ethics. Course includes building and testing a simple Stirling engine.		Keith Larson - larson@eng.famu.fsu.edu	2:00PM	5:00PM	R	A144	

3333	2685	**EML**	**3011**	**301**	**1**	**Mechanics of Materials**	**This course is the first part of a two-part sequence integrating concepts of strength of materials and principles of materials. It provides students with an introduction to the analysis of the behavior of machine components and structures under various types of loading.**	**3**	Simone Peterson Hruda - peterson@eng.famu.fsu.edu	**12:30 PM**	**1:45PM**	**M W**	**B214**	**COEB/CE2**
3783	12819	**EML**	**3011**		**2**	**Mechanics of Materials**	**This course is the first part of a two-part sequence integrating concepts of strength of materials and principles of materials. It provides students with an introduction to the analysis of the behavior of machine components and structures under various types of loading.**	**3**	Simone Peterson Hruda - peterson@eng.famu.fsu.edu	**9:30AM**	**10:45AM**	**M W**	**B214**	**COEB/CE2**
3334	2651	**EML**	**3012**	**301**	**1**	**Intermediate Mechanics & Materials** *(lecture)* **(must take co-requisite below: EML 3012L)**	**This course is the second part of a two-part sequence, integrating principles of mechanics and materials science. Special emphasis is placed on measurement techniques and experimental methods in solid mechanics and materials science, including analysis and reporting of experimental data and results.**	**3**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**12:30PM**	**1:45PM**	**T R**	**B135**	**COEB/CE2**
3182	2739	**EML**	**3012L**	**L01**	**1**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L01	1	Mechanics & Materials Lab				12:30PM	2:15PM	**M**	**B217**	COEB/CE2
3183	2740	**EML**	**3012L**	**L02**	**2**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L02	2	Mechanics & Materials Lab				2:30PM	4:15PM	**R**	**B217**	COEB/CE2
3184	2741	**EML**	**3012L**	**L03**	**3**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L03	3	Mechanics & Materials Lab				2:30PM	4:15PM	**T**	**B217**	COEB/CE2
3185	2742	**EML**	**3012L**	**L04**	**4**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L04	4	Mechanics & Materials Lab				2:30 PM	4:15PM	**W**	**B217**	COEB/CE2
3186	2743	**EML**	**3012L**	**L05**	**5**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L05	5	Mechanics & Materials Lab				2:45PM	4:30PM	**F**	**B217**	COEB/CE2
3784	2766	**EML**	**3012L**	**L06**	**6**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L06	6	Mechanics & Materials Lab				12:30PM	2:15PM	**W**	**B217**	COEB/CE2
3785	2767	**EML**	**3012L**	**L07**	**7**	**Mechanics & Materials Lab (must take co-requisite: EML 3012)**	**This lab course is designed to give students practical hands-on experience in measurement techniques and experimental methods in solid mechanics and materials science.**	**1**	Dorr Campbell - dcampbell@eng.famu.fsu.edu	**1:15 PM**	**2:30 PM**	**F**	**B135**	**COEB/CE2**
		EML	3012L	L07	7	Mechanics & Materials Lab				2:30PM	4:15PM	**M**	**B217**	COEB/CE2
3335	2686	**EML**	**3013**	**301**	**1**	**Dynamics**	**This course is the first part of an integrated sequence in dynamics, vibrations and controls. Material in this first course includes the following: kinematics and kinetics of particles and rigid bodies, and energy and momentum methods. In addition, the course emphasizes on the utilization of computational tools to solve or simulate equations of motion of mechanical systems.**	**3**	Camilo Ordonez - cordonez@eng.famu.fsu.edu	**8:00AM**	**9:15AM**	**M W**	**B135**	**COEB/CE2**
1419	2653	**EML**	**3014C**	**C01**	**1**	**System Dynamics & Vibrations (lecture)**	**This course is the second part of an integrated sequence in dynamics, vibrations, and controls. Material in this second course includes the development of the equations of motion for translational and rotational mechanical systems, electrical systems, and electromechanical systems; system response using standard differential equation solution techniques and Laplace transforms; frequency response and impedances; linearization of nonlinear system models, and block diagrams and feedback control strategies.**	**3**	Jonathan Clark - clarkj@eng.famu.fsu.edu	**12:30PM**	**1:20PM**	**M W**	**B135**	**COEB/CE2**
		EML	3014C	C01	1	System Dynamics & Vibrations (lab)	**This course is the second part of an integrated sequence in dynamics, vibrations, and controls. Material in this second course includes the development of the equations of motion for translational and rotational mechanical systems, electrical systems, and electromechanical systems; system response using standard differential equation solution techniques and Laplace transforms; frequency response and impedances; linearization of nonlinear system models, and block diagrams and feedback control strategies.**		Jonathan Clark - clarkj@eng.famu.fsu.edu	3:30PM	6:15PM	**R**	**B114**	**COEB/CE2**
3715	2765	**EML**	**3014C**	**C02**	**2**	**System Dynamics & Vibrations (lecture)**	**This course is the second part of an integrated sequence in dynamics, vibrations, and controls. Material in this second course includes the development of the equations of motion for translational and rotational mechanical systems, electrical systems, and electromechanical systems; system response using standard differential equation solution techniques and Laplace transforms; frequency response and impedances; linearization of nonlinear system models, and block diagrams and feedback control strategies.**	**3**	Jonathan Clark - clarkj@eng.famu.fsu.edu	**12:30PM**	**1:20PM**	**M W**	**B135**	**COEB/CE2**
		EML	3014C	C02	2	System Dynamics & Vibrations (lab)	**This course is the second part of an integrated sequence in dynamics, vibrations, and controls. Material in this second course includes the development of the equations of motion for translational and rotational mechanical systems, electrical systems, and electromechanical systems; system response using standard differential equation solution techniques and Laplace transforms; frequency response and impedances; linearization of nonlinear system models, and block diagrams and feedback control strategies.**		Jonathan Clark - clarkj@eng.famu.fsu.edu	3:30PM	6:15PM	**T**	**B114**	**COEB/CE2**

1377	2690	**EML**	**3015C**	**C01**	**1**	**Thermal-Fluids I: Fluid Mechanics (lecture)**	**This course introduces fluid mechanics which covers the following: dimensional analysis, hydrostatics, control volume analysis, basic equations in differential form, inviscid incompressible flow, viscous flows in pipes and ducts, estimation of head losses in fluid systems, and external flows.**	**4**	Mohd Yousuf Ali - myali@eng.famu.fsu.edu	**11:00AM**	**12:15PM**	**M W**	**B135**	**COEB/CE2**
		EML	3015C	C01	1	Thermal-Fluids I: Fluid Mechanics (lab)	**This course introduces fluid mechanics which covers the following: dimensional analysis, hydrostatics, control volume analysis, basic equations in differential form, inviscid incompressible flow, viscous flows in pipes and ducts, estimation of head losses in fluid systems, and external flows.**		Mohd Yousuf Ali - myali@eng.famu.fsu.edu	11:00AM	1:00PM	**F**	**B135**	**COEB/CE2**
3336	2683	**EML**	**3016**	**301**	**1**	**Thermal-Fluids II: Heat Transfer (lecture)**	**This course introduces heat transfer, which covers the following: basic concepts of heat transfer; steady and time dependent conduction; natural and forced convection and radiation; and analysis of heat exchanger.**	**3**	Kourosh Shoele - kshoele@eng.famu.fsu.edu	**2:00PM**	**3:15PM**	**M W**	**B214**	**COEB/CE2**
		EML	3016	301	1	Thermal-Fluids II: Heat Transfer (Help Session)	**This course introduces heat transfer, which covers the following: basic concepts of heat transfer; steady and time dependent conduction; natural and forced convection and radiation; and analysis of heat exchanger.**		Kourosh Shoele - kshoele@eng.famu.fsu.edu	3:30 PM	6:00 PM	**F**	**B210**	**COEB/CE2**
1401	2688	**EML**	**3017C**	**C01**	**1**	**Mechanical Systems I (lecture)**	**This course is the first in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on linkages; constraints and degrees of freedom; position, velocity,and acceleration analysis; cams, gears, and gear trains, static and dynamic analysis; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**	**4**	Carl Moore - camoore@eng.famu.fsu.edu	**9:30AM**	**10:45 AM**	**M W F**	**B135**	**COEB/CE2**
		EML	3017C	C01	1	Mechanical Systems I (lab)	**This course is the first in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on linkages; constraints and degrees of freedom; position, velocity,and acceleration analysis; cams, gears, and gear trains, static and dynamic analysis; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**		Carl Moore - camoore@eng.famu.fsu.edu	2:30 PM	4:30PM	**M**	**A337**	**COEA/CE1**
1473	2760	**EML**	**3017C**	**C02**	**2**	**Mechanical Systems I (lecture)**	**This course is the first in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on linkages; constraints and degrees of freedom; position, velocity,and acceleration analysis; cams, gears, and gear trains, static and dynamic analysis; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**	**4**	Carl Moore - camoore@eng.famu.fsu.edu	**9:30AM**	**10:45 AM**	**M W F**	**B135**	**COEB/CE2**
		EML	3017C	C02	2	Mechanical Systems I (lab)	**This course is the first in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on linkages; constraints and degrees of freedom; position, velocity,and acceleration analysis; cams, gears, and gear trains, static and dynamic analysis; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**		Carl Moore - camoore@eng.famu.fsu.edu	2:30PM	4:30PM	**W**	**A337**	**COEA/CE1**
3786	2762	**EML**	**3017C**	**C03**	**3**	**Mechanical Systems I (lecture)**	**This course is the first in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on linkages; constraints and degrees of freedom; position, velocity,and acceleration analysis; cams, gears, and gear trains, static and dynamic analysis; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**	**4**	Carl Moore - camoore@eng.famu.fsu.edu	**9:30AM**	**10:45 AM**	**M W F**	**B135**	**COEB/CE2**
		EML	3017C	C03	3	Mechanical Systems I (lab)	**This course is the first in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on linkages; constraints and degrees of freedom; position, velocity,and acceleration analysis; cams, gears, and gear trains, static and dynamic analysis; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**		Carl Moore - camoore@eng.famu.fsu.edu	4:45PM	6:45PM	**M**	**A337**	**COEA/CE1**
1926	2684	**EML**	**3018C**	**C01**	**1**	**Mechanical Systems II (lecture)**	**This course is the second in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on materials; stress analysis; shaft design; bearings and lubrication; fasteners and connectors; joints; clutches, brakes, couplings and flywheels; flexible elements; shafts; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**	**4**	Patrick Hollis - hollis@eng.famu.fsu.edu	**8:00 AM**	**9:15 AM**	**M W**	**B214**	**COEB/CE2**

		EML	3018C	C01	1	Mechanical Systems II (lab)	**This course is the second in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on materials; stress analysis; shaft design; bearings and lubrication; fasteners and connectors; joints; clutches, brakes, couplings and flywheels; flexible elements; shafts; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**		Patrick Hollis - hollis@eng.famu.fsu.edu	11:15 AM	1:45 PM	M	B114	COEB/CE2
2338	2703	**EML**	**3018C**	**C02**	**2**	**Mechanical Systems II (lecture)**	**This course is the second in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on materials; stress analysis; shaft design; bearings and lubrication; fasteners and connectors; joints; clutches, brakes, couplings and flywheels; flexible elements; shafts; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**	**4**	Patrick Hollis - hollis@eng.famu.fsu.edu	**8:00 AM**	**9:15 AM**	**M W**	**B214**	**COEB/CE2**
		EML	3018C	C02	2	Mechanical Systems II (lab)	**This course is the second in a sequence of two courses intended to provide the essential tools for the design and analysis of mechanical systems. Emphasis is on materials; stress analysis; shaft design; bearings and lubrication; fasteners and connectors; joints; clutches, brakes, couplings and flywheels; flexible elements; shafts; computer simulations and models of components and systems; team class projects involving dissection of existing machines and design and manufacture of new mechanical systems.**		Patrick Hollis - hollis@eng.famu.fsu.edu	8:15 AM	10:45 AM	F	A144	COEA/CE1
1055	2650	**EML**	**3234**	**301**	**1**	**Material Science & Engineering**	**This course includes concepts of materials science and their relevance to engineering design. Recent advances in engineering materials science.**	**3**	Fumitake Kametani - kametani@asc.magnet.fsu.edu	**2:00PM**	**3:15PM**	**M W**	**B135**	**COEB/CE2**
		EML	3234	301	1	Material Science & Engineering (Recitation)	**This course includes concepts of materials science and their relevance to engineering design. Recent advances in engineering materials science.**			3:30PM	4:45PM	**R**	**B210**	**COEB/CE2**
				301	**1**	**Intro to Mechatronics** *(lecture)* (must take co-requisite below: EML 3811L)	**This course offers an introduction to basic electronics, embedded controllers and their programming. It covers interfacing of micro controllers with sensors and actuators of interest to the mechanical engineer.**	**1**	Camilo Ordonez - cordonez@eng.famu.fsu.edu	**8:00AM**	**8:50AM**	**R**	**B134**	**COEB/CE2**
2020	2655	**EML**	**3811**											
3196	2722	**EML**	**3811L**	**L01**	**1**	**Mechatronics Lab** (lecture) **(must take co-requisite: EML 3811)**	**This course offers a hands-on introduction to basic electronics, embedded controllers and their programming. It covers interfacing of microcontrollers with sensors and actuators of interest to the mechanical engineer.**	**2**	Camilo Ordonez - cordonez@eng.famu.fsu.edu	**9:00AM**	**9:50AM**	**R**	**B134**	**COEB/CE2**
		EML	3811L	L01	1	Mechatronics Lab (lab)				2:30PM	5:15PM	**R**	**B356**	**COEB/CE2**
3197	2723	**EML**	**3811L**	**L02**	**2**	**Mechatronics Lab** (lecture) **(must take co-requisite: EML 3811)**	**This course offers a hands-on introduction to basic electronics, embedded controllers and their programming. It covers interfacing of microcontrollers with sensors and actuators of interest to the mechanical engineer.**	**2**	Camilo Ordonez - cordonez@eng.famu.fsu.edu	**9:00AM**	**9:50AM**	**R**	**B134**	**COEB/CE2**
		EML	3811L	L02	2	Mechatronics Lab (lab)				2:30PM	5:15PM	**W**	**B356**	**COEB/CE2**
3198	2724	**EML**	**3811L**	**L03**	**3**	**Mechatronics Lab** (lecture) **(must take co-requisite: EML 3811)**	**This course offers a hands-on introduction to basic electronics, embedded controllers and their programming. It covers interfacing of microcontrollers with sensors and actuators of interest to the mechanical engineer.**	**2**	Camilo Ordonez - cordonez@eng.famu.fsu.edu	**9:00AM**	**9:50AM**	**R**	**B134**	**COEB/CE2**
		EML	3811L	L03	3	Mechatronics Lab (lab)				12:25PM	3:10PM	**F**	**B356**	**COEB/CE2**
3195	2725	**EML**	**4304**	**301**	**1**	Experiments in Thermal and Fluid Sciences	**This course covers the theory required in engineering experimentation and includes the following topics: concepts of design of experiments; measurement devices and their performance characteristics; error analysis; measurement techniques; measurements of fluid and thermal properties; pressure; velocity; temperature; and calibration procedures.**	**2**	Mohd Yousuf Ali - myali@eng.famu.fsu.edu	**11:00AM**	**12:15PM**	**T R**	**A317**	**COEA/CE1**
1838	2679	**EML**	**4304L**	**L01**	**1**	**Experiments in Thermal and Fluid Sciences (lab) (must take co-requisite: EML 4304)**	**This engineering laboratory explores measurements in fluid and thermal applications and includes experiments in fluid flow and heat transfer; design of engineering experimental systems; laboratory work; and report writing.**	**1**	Mohd Yousuf Ali - myali@eng.famu.fsu.edu	**9:00AM**	**10:45 AM**	**T**	**A109/ A209**	**COEA/CE1**
2191	2687	**EML**	**4304L**	**L02**	**2**	**Experiments in Thermal and Fluid Sciences (lab) (must take co-requisite: EML 4304)**	**This engineering laboratory explores measurements in fluid and thermal applications and includes experiments in fluid flow and heat transfer; design of engineering experimental systems; laboratory work; and report writing.**	**1**	Mohd Yousuf Ali - myali@eng.famu.fsu.edu	**9:00AM**	**10:45 AM**	**W**	**A109/ A209**	**COEA/CE1**
2192	2695	**EML**	**4304L**	**L03**	**3**	**Experiments in Thermal and Fluid Sciences (lab) (must take co-requisite: EML 4304)**	**This engineering laboratory explores measurements in fluid and thermal applications and includes experiments in fluid flow and heat transfer; design of engineering experimental systems; laboratory work; and report writing.**	**1**	Mohd Yousuf Ali - myali@eng.famu.fsu.edu	**2:00PM**	**3:45 PM**	**W**	**A109/ A209**	**COEA/CE1**

1592	2659	EML	4550	301	1	Engineering Design Methods	This is a formal lecture component of the mechanical engineering 'capstone' senior design course project. The course covers the product design cycle from problem identification and need assessment, to specification, concept generation and selection, preliminary design, materials selection, and final design. The design process is placed in context by presenting topics such as legal and ethical issues, product reliability and liability considerations, engineering economics, and optimal design.	3	Shayne McConomy - smcconomy@eng.famu.fsu.edu	5:00PM	6:15PM	M W	B135	COEA/CE1
1296	2660	EML	4551C	C01	1	Senior Design I	This course is the first in a two-part course sequence presenting an integrated system design approach for engineering product realization. Course blends the perspectives of market research and planning, design cycle, project management and teamwork, and technical reporting. This is the 'capstone' course for mechanical engineering students. The course offers weekly sessions in which teams are coached during the different phases of the project, plus frequent and extensive design reviews. This course is structured to closely resemble 'on-the-job' engineering education.	3	Shayne McConomy - smcconomy@eng.famu.fsu.edu	3:30PM	7:45PM	T R	B135	COEB/CE2
		SDS	3802			Experiential Learning	This course focuses on engaging students to "try on" a professional environment through an experiential learning opportunity. Experiential learning occurs through a variety of activities including: internships, field work, service learning, projects, undergraduate research, fellowship, leadership, clinical experience, co-op, and practicum. Experiential learning assists students in identifying and strengthening skills needed to succeed in their intended career field. The course also focuses on how student's experiences can put theory into practice within their intended post-baccalaureate work settings. Through goal-setting, reflection and self-evaluation, this course facilitates professional growth. May be repeated to a maximum of six completions.	0-1	https://www.eng. famu.fsu.edu/me /undergraduate/r esearch- experience					
1041-	12017-	EML	4905	601-	001-	DIS Directed Independent Study		1-3	(Contact Professor, then Mr. Parker to create course number) Daniel Parker - dparker@eng.famu.fsu.edu					
	2726-	EML	4970		001-	Honors Work (Contact Professor)	In this course, students accepted into the Honors in the Major program complete an original research or creative project in their major area of study. This course must be repeated at least twice to complete a minimum of six (6) credit hours total, but may be repeated up to a maximum of twelve credit hours in total.	3						
2339	9174	EAS	4101	301	1	Fundamentals of Aerodynamics (Aeronautics TRACK)	This course is a technical elective course designed for senior-level engineering students in the Aeronautics Track and area of thermal and fluid sciences. The course includes fundamental fluid mechanics and aerodynamic principles in the design of airfoil and aircraft wings. It provides a comprehensive review concerning applications, technological advances, and social impacts on the development of a modern flight vehicle. The course provides an overview of the guiding principles and experimental observations to analyze basic aerodynamic characteristics of an aircraft configuration.	3	Huixuan Wu - hw23m@fsu.edu	5:00PM	6:15PM	M W	AME106	
1608	2710	EML	4288	301	1	Vehicle Design	This introductory course in vehicle design emphasizes vehicle dynamics. Content covers the primary performance related features of vehicle design (suspension, steering, chassis, and tires). Using the latest industry-standard software, the course examines various design parameters that influence vehicle performance and handling.	3	Patrick Hollis - hollis@eng.famu.fsu.edu	11:00AM	12:15PM	T R	A226/A144	COEA/CE1
1084	2656	EML	4312	301	1	Design & Analysis of Control Systems	This course focuses on mathematical modeling of continuous physical systems. Frequency and time domain analysis and design of control systems. State variable representations of physical systems.	3	Taylor Higgins - thiggins@eng.famu.fsu.edu	9:30AM	10:45AM	T R	B214	COEB/CE2
1221	2657	EML	4450	301	1	Energy Conversion Systems for Sustainability	This course presents the challenge of changing the global energy system so it addresses reducing dependence on finite fossil energy sources and moving to environmentally sustainable energy sources. The emphasis is on greenhouse gas emissions-free energy production strategies, including renewable energy sources such as solar, wind, and biomass. Topics include photovoltaic cells, fuel cells, and thermoelectric systems.	3	Juan Ordonez - ordonez@eng.famu.fsu.edu	11:00AM	12:15PM	M W	A105	COEA/CE1
2755	2658	EML	4542	301	1	Materials Selection in Design	This course examines the selection and application of materials predicated on material science and engineering case studies covering most engineering applications.	3	Eric Hellstrom - ehellstrom@eng.famu.fsu.edu	12:30PM	1:45PM	M W	A235	COEA/CE1
2086	2693	EML	4804			Mechatronics II	This course focuses on developing greater competence in the application of electromechanical components to solve engineering problems and build 'smart' systems. The course focuses on the design interplay between electrical and mechanical systems. Students use microprocessors, circuits, sensors, and actuators in both labs and projects to develop multi-purpose electromechanical devices. The course provides instruction and practical exercises in: programming, electronics, signal conditioning, communication protocols, mechanical design, prototyping techniques, and system integration.	3	Jonathan Clark - clarkj@eng.famu.fsu.edu	9:30AM 9:30AM	10:45AM 12:00PM	MW F	AME108 B356	

1891	2661	EML	4930	601	1	Experimental Methods & Advanced Flow Diagnostics (Aeronautics TRACK)	Experimental Methods and Advanced Flow Diagnostics is a course preparing students for experimental work in fluid mechanics and aerospace engineering, either in industry or graduate school. The course covers, in lectures and labs, conventional sensors, such as pressure transducers, microphones and thermocouples, and how they interface with flow systems and data acquisition. We discuss calibration and data postprocessing and analysis. Furthermore, the class discusses modern, imaging techniques such as particle image velocimetry and pressure sensitive paints after an introduction on optics and image acquisition. The final part covers windtunnel measurements of aerodynamic forces and moments using a force balance.	3	Jonas Gustavsson - jgustavsson@fsu.edu / Rajan Kumar - rkumar@eng.famu.fsu.edu	3:30PM	4:45PM	T R	AME108	
2771	2691	EML	4930	602	2	Failure Analysis		3	Peter Kalu - kalu@eng.famu.fsu.edu	12:30PM	1:45PM	M W	A305	COEA/CE1
3072	2708	EML	4930	606	6	Bayesian Uncertainty Analysis	This course will introduce students to Bayesian uncertainty analysis in engineering problems. It will compare Bayesian statistics to frequentist statistics. A tutorial based lecture series will be utilized to provide students with hands-on experience computing uncertainty of models in light of data. Matlab code will be provided.	3	William Oates - woates@eng.famu.fsu.edu	12:30PM	1:45PM	M W	A226	COEA/CE1
3402	2737	EML	4930	608	8	Introduction to Additive Manufacturing (lec	This course is an introduction to Additive Manufacturing (AM) technologies. Students will learn about seven (7) AM process classes, as well as the materials suitable for these processes. The advantages, disadvantages, costs, capabilities, materials, safety concerns, and applications for AM will be compared to those for traditional manufacturing processes. Finally, students will learn about the operation and performance of FDM 3D printers by designing, fabricating, and testing parts using a 3D printer that they purchase and assemble from a kit.	3	Dorr Campbell - dcampbell@eng.famu.fsu.edu	9:00 AM	10:15 AM	M W	B216	COEB/CE2
						Introduction to Additive Manufacturing (lab			Dorr Campbell - dcampbell@eng.famu.fsu.edu	10:30 AM	11:45 AM	M W	B216	COEB/CE2
2340	9175	EAS	5102	601	1	Fundamentals of Aerodynamics (Aeronautics TRACK)	This course includes fundamental fluid mechanics and aerodynamic principles in the design of airfoil and aircraft wings. The course provides a comprehensive review concerning applications, technological advances, and social impacts on the development of a modern flight vehicle.	3	Huixuan Wu - hw23m@fsu.edu	5:00PM	6:15PM	M W	AME106	
2777	2709	EML	5060	601	1	Analysis in Mechanical Engineering (Part I)	This course familiarizes the student with methods of analysis in mechanicalengineering. Surveys applications of integration and series, ordinary and partial differential equations, and linear algebra.	3	Unnikrishnan Sasidharan Nair - usasidharannair@eng.famu.fsu.edu	9:30AM	10:45AM	M W	AME106	
2341	2704	EML	5152	601	1	Fundamentals of Heat Transfer	This is an introductory course in basic heat transfer concepts. Topics include conduction and heat diffusion equation, forced and free convection, radiative heat transfer, boiling heat transfer, and condensation.	3	Wei Guo - wguo@magnet.fsu.edu	2:00PM	3:15PM	M W	A125	COEA/CE1
2778	2711	EML	5289	601	1	Vehicle Design	This is an introductory course in vehicle design concentrating primarily on vehicle dynamics. Students examine the key features of vehicle design that relate to performance: suspension, steering, chassis, and tires. By using the latest in industry standard software, students consider the various design parameters influencing vehicle performance and handling.	3	Patrick Hollis - hollis@eng.famu.fsu.edu	11:00AM	12:15PM	T R	A226/ A144	COEA/CE1
1083	2662	EML	5311	601	1	Design & Analysis of Control Systems	This course examines mathematical modeling of continuous physical systems. Frequency and time domain analysis and design of control systems. State variable representations of physical systems.	3	Taylor Higgins - thiggins@eng.famu.fsu.edu	9:30AM	10:45AM	T R	B214	COEB/CE2
1353	2663	EML	5451	601	1	Energy Conversion Systems for Sustainability	This course discusses the challenges of making the global energy system independent of finite fossil-energy sourses and, instead, dependent on environmentally sustainable energy sources. The course emphasizes strategies for producing energy that is free of greenhouse-gas emissions, including renewable energy sources such as solar, wind, and biomass. The course focuses on direct energy conversion and covers topics such as photovoltaic cells, fuel	3	Juan Ordonez - ordonez@eng.famu.fsu.edu	11:00AM	12:15PM	M W	A105	COEA/CE1
2787	2664	EML	5543	601	1	Materials Selection in Design	This course examines the application of materials predicated on material science and engineering case studies covering most engineering applications.	3	Eric Hellstrom - ehellstrom@eng.famu.fsu.edu	12:30PM	1:45PM	M W	A235	COEA/CE1
2195	2665	EML	5709	601	1	Fluid Mechanic Principles with Selected Applications (Aeronautics TRACK)	This course explores introductory concepts, description, and kinematical concepts of fluid motion, basic field equations, thermodynamics of fluid flow, Navier-Stokes equations, elements of the effects of friction and heat flow, unsteady one-dimensional motion, selected nonlinear steady flows.	3	Chiang Shih - shih@eng.famu.fsu.edu	11:00AM	12:15PM	M W	AME106	
2774	2759	EML	5709	602	2	Fluid Mechanic Principles with Selected Applications (AERO Certificate Program)	This course explores introductory concepts, description, and kinematical concepts of fluid motion, basic field equations, thermodynamics of fluid flow, Navier-Stokes equations, elements of the effects of friction and heat flow, unsteady one-dimensional motion, selected nonlinear steady flows.	3	Chiang Shih - shih@eng.famu.fsu.edu	ONLINE			ONLINE	

2087	2694	EML	**5803**			**Mechatronics II**	**This course focuses on developing greater competence in the application of electromechanical components to solve engineering problems and build 'smart' systems. The course focuses on the design interplay between electrical and mechanical systems. Students use microprocessors, circuits, sensors, and actuators in both labs and projects to develop multi-purpose electromechanical devices. The course provides instruction and practical exercises in programming, electronics, signal conditioning, communication protocols, mechanical design, prototyping techniques, and system integration.**	**3**	Jonathan Clark - clarkj@eng.famu.fsu.edu	**9:30AM**	**10:45AM**	**MW**	**AME108**	
										9:30AM	**12:00PM**	**F**	**B356**	
1892	2682	**EML**	**5930**	**601**	**1**	**Experimental Methods & Advanced Flow Diagnostics (Aeronautics TRACK)**	**This course explores various topics in mechanical engineering with emphasis on recent developments. Content and credit will vary. Consult the instructor.**	**3**	Jonas Gustavsson - jgustavsson@fsu.edu / Rajan Kumar - rkumar@eng.famu.fsu.edu	**3:30PM**	**4:45PM**	**T R**	**AME108**	
1927	2689	**EML**	**5930**	**602**	**2**	**Failure Analysis**	**This course explores various topics in mechanical engineering with emphasis on recent developments. Content and credit will vary. Consult the instructor.**	**3**	Peter Kalu - kalu@eng.famu.fsu.edu	**12:30PM**	**1:45PM**	**M W**	**A305**	**COEA/CE1**
2775	2731	**EML**	**5930**	**606**	**6**	**Bayesian Uncertainty Analysis**	**This course explores various topics in mechanical engineering with emphasis on recent developments. Content and credit will vary. Consult the instructor.**	**3**	William Oates - woates@eng.famu.fsu.edu	**12:30PM**	**1:45PM**	**M W**	**A226**	**COEA/CE1**
2924	12834	**EML**	**5930**	**608**	**10**	**Turbulence**	**This course explores various topics in mechanical engineering with emphasis on recent developments. Content and credit will vary. Consult the instructor.**	**3**	Neda Yaghoobian - nyaghoobian@eng.famu.fsu.edu	**3:30PM**	**4:45PM**	**MW**	**AME108**	
1082	2649	**EML**	**5935**	**601**	**1**	**ME Graduate Seminar**		**0**	Alexandre Berger - aberger@eng.famu.fsu.edu / Taylor Higgins - thiggins@eng.famu.fsu.edu	**11:00AM**	**12:00PM**	**F**	**AME106**	