Mississippi State University
Spring 2022
Course List

ASE 6133	Automatic Control	Tues / Thurs	03:30pm - 04:45pm
ASE 6153	Advanced Performance	Mon / Wed / Fri	12:40pm - 01:30pm
ASE 6813	Adv Orbital Mechanics	Tues / Thurs	12:30pm - 01:45pm
ASE 8353	Turbulent Flow	Mon / Wed / Fri	08:00am - 08:50am
CE 6513	Engr. Hydrology	Tues / Thurs	08:00am - 09:15am
CE 6563	Sedimentation Engr	Tues / Thurs	11:00am - 12:15pm
CE 8133	Traffic Flow Theory	Mon / Wed	03:30pm - 04:45pm
CE 8313	Concrete Materials	Tues / Thurs	12:30pm - 01:45pm
CE 8463	Slopes & Embankments	Tues / Thurs	05:00pm - 06:15pm
CE 8503	Data Analysis for CEE	Tues / Thurs	08:00am - 09:15am
CE 8923	Surf Wat Qual Mod	Tues / Thurs	02:00pm - 03:15pm
CHE 6173	Polymer Science & Technology	Mon / Wed / Fri	12:00pm - 12:50pm
CHE 6990	Special Topic In CHE – Chemical Catalysis	Tues / Thurs	12:30pm - 01:45pm
CHE 8011	Chem En Seminar	Friday	03:00pm - 04:30pm
CHE 8123	Chem Kinetics Dyn	Tues / Thurs	02:00pm - 03:15pm
CHE 8523	Adv Tran Pheno	Tues / Thurs	03:55pm - 05:10pm
CSE 6173	Cryptography	Tues / Thurs	11:00am - 12:15pm
CSE 6363	Software Reverse Engineering	Tues / Thurs	03:30pm - 04:45pm
CSE 6383	Network Security	Mon / Wed / Fri	11:00am - 11:50am
CSE 6633	Artificial Intell	Mon / Wed	02:00pm - 03:15pm
CSE 6990	Special Topic in CSE – AI for Cyber Security	Tues / Thurs	12:30pm - 01:45pm
CSE 8423	Data Science:Concepts & Pract	Mon / Wed	12:30pm - 01:45pm
CSE 8753	Wireless Networks	Mon / Wed	03:30pm - 04:45pm
CSE 8813	Theory of Computation	Mon / Wed	12:30pm - 01:45pm
CSE 8843	Seg/Parallel Alrthm	Mon / Wed	03:30pm - 04:45pm
ECE 6313	Antennas	Mon / Wed / Fri	09:00am - 09:50am
ECE 6633	Pwer Distrib Systems	Tues / Thurs	11:00am - 12:15pm
ECE 6653	Intro to Power Elect.	Tues / Thurs	09:30am - 10:45am
ECE 6713	Computer Architecture	Tues / Thurs	09:30am - 10:45am
ECE 6813	Communications Theory	Mon / Wed / Fri	11:00am - 11:50am
ECE 6990	Special Topic in ECE – Approaches to Firmware Development	Tues / Thurs	08:00am - 09:15am
ECE 6990	Special Topic in ECE – Sensor Processing for AV's	Mon / Wed	03:30pm - 04:45pm
ECE 8473	Digital Image Processing	Mon / Wed / Fri	12:00pm - 12:50pm
ECE 8990	Special Topic in ECE – IoT and IoT Security	Tues / Thurs	03:30pm - 04:45pm
ECE 8990	Special Topic in ECE – Design and Implementation of Wearable Technology	Mon / Wed	02:00pm - 03:15pm
ECE 9100	Graduate Seminar	TBA	TBA

EM 6123	Intro Finite Element	Mon / Wed / Fri	11:00am - 11:50am
EM 6133	Composite Materials	Mon / Wed / Fri	01:00pm - 01:50pm
EM 8113	Theory Of Cont Media	Mon / Wed / Fri	01:00pm - 01:50pm
ENE 8303	Pedagogy & Assessment Eng Ed	TBA	TBA
IE 6533	Project Mgt	Mon / Wed / Fri	09:00am - 09:50am
IE 6543	Logistics Engineering	Tues / Thurs	11:00am - 12:15pm
IE 6553	Eng Law & Ethics	Mon / Wed	03:30pm - 04:45pm
IE 6613	Eng Statistics I	TBA	TBA
IE 6733	Linear Programming I	Tues / Thurs	12:30pm - 01:45pm
IE 6773	Sys Simulation I	Mon / Wed / Fri	11:00am - 11:50am
IE 6990	Special Topic In IE –	Mon / Wed / Fri	08:00am - 08:50am
	Intellectual Property & Patent Design		
IE 8583	Enterprise Systems Engineering	Mon / Wed / Fri	08:00am - 08:50am
IE 8913	Engr Economy II	Tues / Thurs	11:00am - 12:15pm
IE 8990	Special Topic In IE –	Mon / Wed	02:00pm - 03:15pm
	Design & Implementation of Wearable Technology		
IE 8990	Special Topic In IE –	Tues / Thurs	09:30am - 10:45am
	Large-Scale Optimization for Deep Learning		
ME 6233	Fundamentals of FEA	Mon / Wed	12:30pm - 01:45pm
ME 6353	Alt Energy Sources	Mon / Wed / Fri	10:00am - 10:50am
ME 6393	Power Generation Systems	Mon / Wed / Fri	11:00am - 11:50am
ME 6543	Combustion Engines	Tues / Thurs	08:00am - 09:15am
ME 8223	Inelasticity	Tues / Thurs	02:00pm - 03:15pm
ME 8253	Fatigue in Engin Design	Tues / Thurs	12:30pm - 03:15pm
ME 8333	Convective Heat Tr	Tues / Thurs	09:30am - 10:45am
ME 8613	Dynamical Systems	Mon / Wed	02:00pm - 03:15pm
ME 8813	Viscous Flow I	Tues / Thurs	11:00am - 12:15pm

Course Descriptions

ASE 6133	**Automatic Control**	**Tues / Thurs**	**03:30pm - 04:45pm**

Instructor: Yang Cheng

(Section 501) Prerequisite: ASE 4123. Three hours lecture. Optimization techniques; structural flexibility effects; statistical design; sample-data control systems.

ASE 6153	**Advanced Performance**	**Mon / Wed / Fri**	**12:40pm - 01:30pm**

Instructor: Calvin Walker

(Section 501) Prerequisite: ASE 2113 or consent of instructor. Three hours lecture. Performance methods use for current aeronautical vehicles. Configurations considered are sailplanes, V/STOL aircraft, subsonic/supersonic transports, and fighters.

ASE 6813 **Adv Orbital Mechanics** **Tues / Thurs** **12:30pm - 01:45pm**

Instructor: Yang Cheng

(Section 501) Prerequisite: ASE 3813. Three hours lecture. Orbital mechanics; perturbations and numerical integration. Global positioning system, launch performance and optimization.

ASE 8353 **Turbulent Flow** **Mon / Wed / Fri** **08:00am - 08:50am**

Instructor: Adrian Sescu

(Section 501) Prerequisite: ASE 8343. Three hours lecture. Origins of turbulence; stability statistical theory of turbulence; isotropic and non-isotropic turbulence; equations of turbulent flow; turbulent boundary layer; free turbulent flow.

CE 6513 **Engr. Hydrology** **Tues / Thurs** **08:00am - 09:15am**

Instructor: John Ramirez Avila

(Section 501) Prerequisite: grade of C or better in CE 3503; or consent of major advisor. Three hours lecture. Hydrologic processes; rainfall-runoff analysis; groundwater flow; frequency analysis; hydrologic design.

CE 6563 **Sedimentation Engr** **Tues / Thurs** **11:00am - 12:15pm**

Instructor: John Ramirez Avila

(Section 501) Prerequisite: Grade of C or better in CE 4523; or consent of major advisor. Three hours lecture. Processes by which cohesive and non-cohesive sediments are transported in overland flow and in rivers, reservoirs, estuaries and coastlines. Deposition and erosion rates. Design criteria.

CE 8133 **Traffic Flow Theory** **Mon / Wed** **03:30pm - 04:45pm**

Instructor: Li Zhang

(Section 501) Prerequisite: Consent of Major Advisor. Three hours lecture. An analysis of the engineering and mathematical principles of traffic flow.

CE 8313 **Concrete Materials** **Tues / Thurs** **12:30pm - 01:45pm**

Instructor: Isaac Howard

(Section 501) Prerequisite: Consent of Major Advisor. Three hours lecture. Materials science of concrete and cement-based materials with a focus on materials specification and testing as well as identifying mechanisms of material degradation.

CE 8463 **Slopes & Embankments** **Tues / Thurs** **05:00pm - 06:15pm**

Instructor: Jeremiah Stache

(Section 501) Prerequisite: Consent of Major Advisor. Analysis and design of geotechnical systems placed on an angle from the horizontal.

CE 8503 **Data Analysis for CEE** **Tues / Thurs** **08:00am - 09:15am**

Instructor: Seamus Freyne

(Section 501) Prerequisite: Consent of Major Advisor. Three hours lecture. Analysis and interpretation of civil and environmental engineering data. Empirical, analytic, and statistical decomposition of spatial and temporal data to determine meaning.

| CE 8923 | **Surf Wat Qual Mod** | **Tues / Thurs** | **02:00pm - 03:15pm** |

Instructor: Isaac Howard

(Section 501) Prerequisite: Consent of Major Advisor. Development of the mathematical formulations describing the distribution of concentration of conservative and nonconservative pollutants describing the distribution of concentration of conservative in natural waters.

| CHE 6173 | **Polymer Science & Technology** | **Mon / Wed / Fri** | **12:00pm - 12:50pm** |

Instructor: Julie Jessop

(Section 501) Prerequisite: C or better in CH 4513 and MA 1723. Three hours lecture. Introduction to societally important polymeric materials and issues with a broad exposure to topics in polymer chemistry, properties, and processing.

| CHE 6990 | **Special Topic In CHE – Chemical Catalysis** | **Tues / Thurs** | **12:30pm - 01:45pm** |

Instructor: Neeraj Rai

(Section 501) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

| CHE 8011 | **Chem En Seminar** | **Friday** | **03:00pm - 04:30pm** |

Instructor: Billy Elmore

(Section 501) Prerequisite: Graduate standing. Library assignments and reports on the current chemical engineering literature.

| CHE 8123 | **Chem Kinetics Dyn** | **Tues / Thurs** | **02:00pm - 03:15pm** |

Instructor: Hossein Toghiani

(Section 501) Prerequisite: consent of instructor. Three hours lecture. Theory and interrelations of phenomemological chemical kinetics and molecular reaction dynamics.

| CHE 8523 | **Adv Tran Pheno** | **Tues / Thurs** | **03:55pm - 05:10pm** |

Instructor: Santanu Kundu

(Section 501) Three hours lecture. (Prerequisite: Graduate standing). Fundamental principles in momentum, heat, and mass transport. Conservation equations. Continuity, motion, energy equations, and multicomponent mass equation of change.

| CSE 6173 | **Cryptography** | **Tues / Thurs** | **11:00am - 12:15pm** |

Instructor: Mahalingam Ramkumar

(Section 501) Prerequisite: CSE 2383 Data Structures and Algorithms. Three hours lecture. Discrete probability, Information theory, Symmetric Cryptography, Introductory Number Theory, Asymmetric Cryptography, Standard Cryptographic Primitives, Cryptographic Protocols.

| CSE 6363 | **Software Reverse Engineering** | **Tues / Thurs** | **03:30pm - 04:45pm** |

Instructor: Stephen Torri

(Section 501) Prerequisite: Grade of C or better in CSE 3183. Three hours lecture. Software specification recovery and malicious software analysis. Tools and techniques for analyzing compiled programs and communications in the absence of documentation.

| CSE 6383 | **Network Security** | **Mon / Wed / Fri** | **11:00am - 11:50am** |

Instructor: George Trawick

(Section 501) Prerequisites: CSE 4173/6173 Cryptography; and credit or registration in CSE 4153/6153. Three hours lecture. Basic and advanced concepts in cryptography and network security: symmetric and asymmetric cryptography, key management, wired and wireless network security protocols, network systems security.

| CSE 6633 | **Artificial Intell** | **Mon / Wed** | **02:00pm - 03:15pm** |

Instructor: Zhiqian Chen

(Section 501) Prerequisite: Grade of C or better in CSE 2383 and CSE 2813 Three hours lecture. Study of the computer in context with human thought processes. Heuristic programming; search programming; search strategies; knowledge representation; natural language understanding; perception; learning.

| CSE 6990 | **Special Topic in CSE – AI for Cyber Security** | **Tues / Thurs** | **12:30pm - 01:45pm** |

Instructor: Sudip Mittal

(Section 501) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

| CSE 8423 | **Data Science:Concepts & Pract** | **Mon / Wed** | **12:30pm - 01:45pm** |

Instructor: John Swan , II

(Section 501) Three hours lecture. This course introduces the fundamental concepts of data science, covering data representation and transformation, visual data analysis, statistical modeling, tidy and relational data, functional data-flow programming, and communicating results. The course introduces the practice of data science, using standard data science tools and languages.

| CSE 8753 | **Wireless Networks** | **Mon / Wed** | **03:30pm - 04:45pm** |

Instructor: Maxwell Young

(Section 501) Three hours lecture. Wireless network protocol design, theoretical analysis, and security and privacy. (Same as ECE 8823).

| CSE 8813 | **Theory of Computation** | **Mon / Wed** | **12:30pm - 01:45pm** |

Instructor: Ioana Banicescu

(Section 501) Prerequisite: CSE 3813. Three hours lecture. Study of abstract models of computation, unsolvability, complexity theory, formal grammars and parsing, and other advanced topics in theoretical computer science.

| CSE 8843 | **Seg/Parallel Alrthm** | **Mon / Wed** | **03:30pm - 04:45pm** |

Instructor: Ioana Banicescu

(Section 501) Prerequisite: CSE 4833/6833. Three hours lecture. Complexity of sequential algorithms, theory of complexity, parallel algorithms.

| ECE 6313 | **Antennas** | **Mon / Wed / Fri** | **09:00am - 09:50am** |

Instructor: Junming Diao

(Section 501) Prerequisite: Grade of C or better in ECE 3323. Three hours lecture. Introduction to antennas and electromagnetic radiation, antenna design and analysis, antenna performance measures, antenna types, and antenna arrays.

ECE 6633   **Pwer Distrib Systems**   **Tues / Thurs**   **11:00am - 12:15pm**

Instructor: Yong Fu

(Section 501) Prerequisite: Grade of C or better in ECE 3614. Three hours lecture. Distribution of power from transmission system to users; primary and secondary feeders; voltage regulation; distribution transformers; protective device coordination; system design; load management.

ECE 6653   **Intro to Power Elect.**   **Tues / Thurs**   **09:30am - 10:45am**

Instructor: Seungdeog Choi

(Section 501) Prerequisite: Grade of C or better in both ECE 3614 and ECE 3424 or equivalent. Three hours lecture. Introduction to power electronic circuits, with emphasis on design and analysis of power semiconductor converters including DC-DC converters, PWM inverters, and DC power supplies.

ECE 6713   **Computer Architecture**   **Tues / Thurs**   **09:30am - 10:45am**

Instructor: Chaomin Luo

(Section 501) Prerequisites: Grade of C or better in ECE 3724. Three hours lecture. Detailed design and implementation of a stored-program digital computer system. Designs for the CPU, I/O subsystems, and memory organizations. ALU design and computer arithmetic.

ECE 6813   **Communications Theory**   **Mon / Wed / Fri**   **11:00am - 11:50am**

Instructor: Chun-Hung Liu

(Section 501) Prerequisite: Grade of C or better in ECE 3443. Three hours lecture. The frequency and time domain; modulation; random signal theory; network analysis using nondeterministic signals; basic information theory; noise.

ECE 6990   **Special Topic in ECE –**   **Tues / Thurs**   **08:00am - 09:15am**

          Approaches to Firmware Development

Instructor: Bryan Jones

(Section 501) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

ECE 6990   **Special Topic in ECE –**   **Mon / Wed**   **03:30pm - 04:45pm**

          Sensor Processing for AV's

Instructor: John Ball

(Section 502) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

ECE 8473   **Digital Image Processing**   **Mon / Wed / Fri**   **12:00pm - 12:50pm**

Instructor: James Fowler , Jr.

(Section 501) Prerequisites: CS 1233, CS 1284 or equivalent, ECE 4413/ 6413. Three hours lecture. A study of digital image processing principles, concepts, and algorithms; mathematical models; image perception; image sampling and quantization, transforms, image coding.

| ECE 8990 | **Special Topic in ECE – IoT and IoT Security** | **Tues / Thurs** | **03:30pm - 04:45pm** |

Instructor: Yu Luo

(Section 501) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years.)

| ECE 8990 | **Special Topic in ECE –** | **Mon / Wed** | **02:00pm - 03:15pm** |

Design and Implementation of Wearable Technology

Instructor: John Ball (P) / Reuben Burch , V

(Section 502) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years.)

| ECE 9100 | **Graduate Seminar** | **TBA** | **TBA** |

Instructor: Qian Du

(Section 501) Presentations and discussions by faculty, guest speakers, and graduate students on current topics in the areas of electrical and computer engineering. Must be taken three times before graduation for doctoral degree. Repeatable up to three times.

| EM 6123 | **Intro Finite Element** | **Mon / Wed / Fri** | **11:00am - 11:50am** |

Instructor: Staff

(Section 501) Prerequisite: Consent of Instructor. Three hours lecture. Introduction to the mathematical theory, formulation, and computer implementation of the finite element method. App- lication to one-and two-dimensional problems in engineering mechanics.

| EM 6133 | **Composite Materials** | **Mon / Wed / Fri** | **01:00pm - 01:50pm** |

Instructor: Han-Gyu Kim

(Section 501) Prerequisites: EM 3213 and MA 3253. Three hours lecture. Stress, strain, constituative relations for anisotropic material, lamina properties, laminate properties, composite beams and plates.

| EM 8113 | **Theory Of Cont Media** | **Mon / Wed / Fri** | **01:00pm - 01:50pm** |

Instructor: Staff

(Section 501) Prerequisite: MA 3353 or consent of the instructor. Three hours lecture. An introduction to the general theory of continuous media and its application to the theories of elasticity and fluid mechanics.

| ENE 8303 | **Pedagogy & Assessment Eng Ed** | **TBA** | **TBA** |

Instructor: Lesley Strawderman

(Section 501) Prerequisite: graduate standing and consent of the instructor. Three hours lecture. Assessment issues and skills important for engineering faculty, including strengths and weakness of a variety of quantitative and qualitative assessment strategies. Assessment in course design, ABET engineering accreditation criteria and procedures.

| IE 6533 | **Project Mgt** | **Mon / Wed / Fri** | **09:00am - 09:50am** |

Instructor: Junfeng Ma

(Section 501) Prerequisites: Grade of C or better in IE 4613. Three hours lecture. Use of CPM, PERT, and GERT for planning, managing and controlling projects. Computer procedures for complex networks.

IE 6543   **Logistics Engineering**   **Tues / Thurs**   **11:00am - 12:15pm**

Instructor: Harun Pirim

(Section 501) Prerequisite: IE 4613 and senior or graduate standing, Co-requisites: IE 4733 or MA 4733. Three hours lecture. Analysis of complex logistics networks. Integration of supply, production, inventory, transportation, and distribution. Strategies for reducing logistics costs and lead times. Customer-supplier partnerships.

IE 6553   **Eng Law & Ethics**   **Mon / Wed**   **03:30pm - 04:45pm**

Instructor: Robert Green

(Section 501) Prerequisite: Senior standing in engineering. Three hours lecture. The engineer and his relations to the law, to the public, and the ethics of his profession. Includes contracts, patents, copyrights, sales agreements, engineering specifications.

IE 6613   **Eng Statistics I**   **TBA**   **TBA**

Instructor: Junfeng Ma

(Section 501) Prerequisite: MA 1723. Three hours lecture. Introduction to statistical analysis. Topics include: probability, probability distributions, data analysis, parameter estimation, statistical intervals, and statistical inferences.

IE 6733   **Linear Programming I**   **Tues / Thurs**   **12:30pm - 01:45pm**

Instructor: Harun Pirim

(Section 501) Prerequisites: MA 3113. Three hours lecture. Theory and application of linear programming; formulating optimization models; simplex algorithm, duality and sensitivity analysis, integer programming; branch-and-bound algorithm; real-life applications of linear and integer programming models (Same as MA 4733/6733).

IE 6773   **Sys Simulation I**   **Mon / Wed / Fri**   **11:00am - 11:50am**

Instructor: Raed Jaradat

(Section 501) Prerequisite: Grade of C or better in IE 4934, IE 4933 or equivalent programming course, Co-requisite: IE 4623. Three hours lecture. The principles of simulating stochastic systems with an emphasis on the statistics of simulation and the use of discrete-event simulation languages.

IE 6990   **Special Topic In IE –**   **Mon / Wed / Fri**   **08:00am - 08:50am**

          Intellectual Property & Patent Design

Instructor: Reuben Burch , V(P) / Charles Freeman , Jr.

(Section 502) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

IE 8583   **Enterprise Systems Engineering**   **Mon / Wed / Fri**   **08:00am - 08:50am**

Instructor: Raed Jaradat

(Section 501) Prerequisite: Consent of instructor. Three hours lecture. Focuses on the design and improvement of an enterprise through the use of engineering tools and methods, based on the systems perspective of industrial engineering.

IE 8913   **Engr Economy II**   **Tues / Thurs**   **11:00am - 12:15pm**

Instructor: Nazanin Morshedlou

(Section 501) Prerequisites: IE 3913 and IE 4613. Three hours lecture. Advanced principles and methods for engineering analysis of industrial problems. Topics include criteria for decisions, project investment and analysis, and elements of risk and uncertainty.

IE 8990   **Special Topic In IE –**   **Mon / Wed**   **02:00pm - 03:15pm**

            Design & Implementation of Wearable Technology

Instructor: Reuben Burch , V(P) / John Ball

(Section 501) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

IE 8990   **Special Topic In IE –**   **Tues / Thurs**   **09:30am - 10:45am**

            Large-Scale Optimization for Deep Learning

Instructor: Haifeng Wang

(Section 502) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

ME 6233   **Fundamentals of FEA**   **Mon / Wed**   **12:30pm - 01:45pm**

Instructor: Matthew Priddy

(Section 501) Three hours lecture. This course focuses on the implementation of the finite element (FE) method with commercially-available FE software and the basic mathematical theory of finite element analysis. Topics include mechanical response with a survey of thermal analysis and advanced topics (e.g., nonlinear problems and dynamic loading).

ME 6353   **Alt Energy Sources**   **Mon / Wed / Fri**   **10:00am - 10:50am**

Instructor: B. Keith Hodge

(Section 501) Prerequisite: ME 3313. Three hours lecture. Analysis and design of systems using energy derived from solar, hydro, geothermal, wind, ocean, waste, and biomass sources.

ME 6393   **Power Generation Systems**   **Mon / Wed / Fri**   **11:00am - 11:50am**

Instructor: Prashant Singh

(Section 501) Prerequisites: ME 3313 and ME 3523. Three hours lecture. Evaluation and optimization of power generation systems with emphasis on optimization methods, system simulation, and economics. Energetic, economic, and environmental issues as well as exergy analysis may be incorporated in this course.

ME 6543   **Combustion Engines**   **Tues / Thurs**   **08:00am - 09:15am**

Instructor: Joonsik Hwang

(Section 501) Prerequisites: ME 3523 and ME 3313. Three hours lecture. Application of thermodynamics, heat transfer, and combustion in the determination of performance characteristics of various engines, e.g., internal combustion, jet, and rocket engines.

ME 8223   **Inelasticity**   **Tues / Thurs**   **02:00pm - 03:15pm**

Instructor: Douglas Bammann

(Section 501) Prerequisite: EM 8113 and EM 8203. Three hours lecture. This course covers plasticity, creep, viscoelasticity, and inelastic behavior in relation to microstructure-property relations, constitutive modeling at different length scales, and computational simulations. (Same as CE 8323).

ME 8253   **Fatigue in Engin Design**   **Tues / Thurs**   **12:30pm - 03:15pm**

Instructor: Youssef Hammi

(Section 501) Three hours lecture. Prediction and prevention of fatigue failure in metallic materials.

ME 8333   **Convective Heat Tr**   **Tues / Thurs**   **09:30am - 10:45am**

Instructor: Like Li

(Section 501) Three hours lecture. Analytical and empirical methods of solution of problems in laminar and turbulent, natural and forced convective heat transfer. Stability; thermal boundary layer techniques; multiphase systems.

ME 8613   **Dynamical Systems**   **Mon / Wed**   **02:00pm - 03:15pm**

Instructor: Douglas Bammann

(Section 501) Three hours lecture. Mathematical description and simulation of systems with mechanical, electrical, pneumatic, and hydraulic components; state variables; bondgraphs; stability; observability and controllability.

ME 8813   **Viscous Flow I**   **Tues / Thurs**   **11:00am - 12:15pm**

Instructor: Shanti Bhushan

(Section 501) Three hours lecture. Fundamental laws of motion for a viscous fluid; classical solutions of the Navier-Stokes equations; inviscid flow solutions; laminar boundary layers; stability criteria.

Mississippi State University
Registration Information

Admissions

All students participating in the off-campus program should contact Tamra Swann to get information on the Admissions and the Registrations process. Unclassified students can transfer a limited number of credits into their degree program. Tamra Swann (662-325-3786) is the Bagley Distance Education Coordinator and will assist students in pursuing their master's degree program.

Registration

It is too late to apply to the university for the spring 2022 semester unless students join as unclassified students. It is recommended that students complete those applications by December 15th, 2021 to allow time for processing – even though the true deadline is later. Applications can be started at https://apply.grad.msstate.edu/ .

Spring 2022 Registration Deadline is January 25th. Classes begin on January 18th. Please call Danielle Poole at 228-688-3170 for more details.

Tuition for Spring 2022

Online tuition for Spring 2022 is $531.25 per graduate credit hour. Fee details can be found at https://www.controller.msstate.edu/accountservices/tuition/ .

Note: The Center of Higher Learning makes every attempt to accurately list tuition rates for our participating universities. It is advisable, however, to check with the University before submitting your final paperwork or payment.

Textbooks

Students wishing to order textbooks can do so by visiting the MSU Bookstore website at https://msstate.bncollege.com/shop/msu/home or calling at (662) 325-8361. Students can also visit the Campus Book Mart website at https://www.campusbookmart.net/cbm/ or call them at (662) 323-7660.

Important Dates

January 18th	Classes begin
January 24th	Last day to drop a course without a grade (5th class day) 11:59pm
January 25th	Last day to register or add a course (6th class day) 5:00pm
May 2nd	Last day of classes
May 5th	Final exams begin

For questions about registration and schedule changes, contact Tamra Swann at 662.325.3786 or tswann@bagley.msstate.edu.