

Distance Learning Courses

These are Distance Learning courses and are not directly related to the CSE degree program. Students wishing to take any of the courses in Appendix A to fulfill the CSE degree requirements **must get the course(s) pre-approved** by the CSE programs director. Additionally, students planning their CSE graduate studies using distance learning courses are advised to have flexibility in their course schedules as not all distance learning courses are offered every year.

Aerospace Engineering

- AE 6450 Rocket Propulsion
- AE 7772 Fund-Fracture Mechanics
- AE 6440 Turbine Engine Aerothermodynamics
- AE 6042 Computational Fluid Dynamics
- AE 6320 Astronautics
- AE 6412 Turbulent Combustion
- AE 8804 QM Advanced Design Methods I
- AE 8803 SCH Aerospace Systems Engineering
- AE 6333 Rotorcraft Design I
- AE 8803 MAV Fixed-Wing Design I
- AE 6070 Rotary Wing Aerodynamics
- AE 6020 High-Speed Flow
- AE 6211 Advanced Dynamics II
- AE 6334 Rotorcraft Design II
- AE 6374 Advanced Design Methods II
- AE 8803 Special Topics - Planetary Entry
- AE 6343 Aircraft Design I
- AE 6445 Combustor Fundamentals
- AE 6354 Advanced Orbital Mechanics
- AE 6050 Gas Dynamics ELECTIVE
- AE 8803 QME Special Topics - Combustor Design Modeling
- AE 6030 Unsteady Aerodynamics
- AE 6050 Gas Dynamics
- AE 6060 Aeroacoustics
- AE 6362 Safety by Design
- AE 6210 Advanced Dynamics I
- AE 8803 Orbital Mechanics
- AE 6779 Dynamic System Modeling
- AE 8803 QPR Human Contribution to Safety
- AE 6322 Spacecraft Launch and Vehicle Design
- AE 6520 Advanced Flight Dynamics
- AE 6361 Air Breathing Propulsion System Design I
- AE 6503 Helicopter Stability and Control
- AE 6766 Combustion-I
- AE 8803 PRI Special Topics - Humans and Autonomy
- AE 8803QWA Special Topics - Electric Propulsion
- AE 8803 QMN Combustion Modeling
- AE 8803 QOL Advanced Design Methods II
- AE 8804 QMA Fixed-Wing Aircraft Design II
- AE 8804 QSC Rotorcraft Design II
- AE 8803 QSC Intro to Prod Life Cycle Mgt & Des Tools
- AE 4803 Restricted Course-ELDP Program (AE)
- AE 8803 Restricted Course-ELDP Program 2 (AE)
- AE 6220 Rotorcraft Dynamics
- AE 6372 Aerospace Systems Engineering
- AE 6373 Adv Design Methods I
- AE/ME 6760 Acoustics I

AE/ME 6762 Applied Acoustics
AE 6012 Turbulent Flows
AE 6344 Aircraft Design II
AE 8803 Adv Design Methods III
AE 6414 Multiphase Combustion
AE 6445 Combustor Fundamentals
AE 8803 Cognitive Engineering
AE 6410 Combustion Dynamics

Computational Science and Engineering

CSE/MATH 6643 Numerical Linear Algebra*
CSE/MATH 6644 Iterative Methods for Systems of Equations
CSE/ISyE 6740 Computational Data Analysis*
CSE 6730 Modeling and Simulation: Fundamentals and Implementation*
CSE/CS 6236 Parallel and Distributed Simulation
CSE 6140 CSE Algorithms*
CSE 6220 High Performance Computing*
CSE 6221 Multicore Computing: Concurrency and Parallelism on the Desktop
CSE/CS 6230 High Performance Parallel Computing: Tools and Application
CSE/CS 6236 Parallel and Distributed Simulation

“**” indicates CSE core courses

Electrical and Computer Engineering

ECE 4270 Fund-Digital Signal Proc
ECE 6100 Adv Comput Architecture
ECE 6250 Adv Digital Signal Proc
ECE 6277 DSP Software Sys Design
ECE 6320 Power Sys Ctrl & Operation
ECE 6521 Optical Fibers
ECE 6550 Linear Sys and Controls
ECE 6557 Manufacturing Sys Design
ECE 6601 Random Processes
ECE 6602 Digital Communications
ECE 6605 Information Theory
ECE 6606 Coding Theory & Applications
ECE 6607 Computer Comm Networks
ECE 8843 Computer Network Security
ECE 6272 Fundamentals of Radar Signal Processing
ECE 4321 Power System Engineering
ECE 6101 Parallel & Dist Comp Arch
ECE 6254 Stat Digit Sig Proc & Mod
ECE 6255 Digit Proc-Speech Signal
ECE 6340 Electric Power Quality
ECE 6522 Nonlinear Optics
ECE 6552 Nonlinear Systems and Control
ECE 6553 Optimal Control and Optimization
ECE 6322 Power System Planning and Reliability
ECE 6500 Fourier Techniques and Signal Analysis
ECE 8803 Special Topics - Radar Imaging
ECE 6551 Digital Control
ECE 6530 Modulation, Diffractive and Crystal Optics
ECE 6140 Digital Systems Test
ECE 8843 Computer Network Security
ECE 6271 Adaptive Filtering
ECE 6331 Power Electronic Circuits

ECE 4320 Power Systems Analysis & Control
ECE 6258 Digital Image Processing
ECE 6279 Spatial Array Processing
ECE 6555 Optimal Estimation
ECE 6612 Computer Network Security
ECE 6556 Intelligent Control
ECE 6604 Personal & Mobile Commun
ECE 6609 ATM Networks
ECE 6610 Wireless Networks
ECE 7142 Fault Tolerant Computing
ECE 7102 RISC Architectures
ECE 6323 Power System Protection
ECE 6335 Electric Machinery Analysis
ECE 6273 Pattern Recognit-Speech
ECE 6520 Integrated Optics
ECE 6380 Intro Computational EM
ECE 4753 Topics in Engr Practice
ECE 6560 Partial Differential Equations in Image Processing and Computer Vision
ECE 6744 Topics in Engineering Practice
ECE 8863 Special Topics-Sensor Networks
ECE 8873 Special Topics..Radar Imaging
ECE 6780 Medical Image Processing
ECE 6276 DSP Hardware Sys Desgin
ECE 6321 Power System Stability Techniques
BMED/ECE 6780 Medical Image Processing
ECE 8893 Special Topics - Embedded Video Surveillance Systems
ECE 6603 Adv Digital Communications
ECE 6430 Digital MOS ICs
ECE 4420 Digital Integ Circuits
ECE 6510 Electro-Optics
ECE 6453 Theory Electronic Device
ECE 6554 Adaptive Control

Industrial and System Engineering

ISYE 6201 Manufacturing Systems
ISYE 6202 Warehousing Systems
ISYE 6669 Deterministic Optimiz
ISYE 6225 Engineering Economy
ISYE 6644 Simulation
ISYE 6650 Probabilistic Models
ISYE 6203 Transp & Supply Chain Sys
ISYE 6307 Scheduling Theory
ISYE 6402 Time Series Analysis
ISYE 8813 Industrial Ecology and Natural Systems
ISYE 6783 Financial Data Analysis
ISYE 6413 Design and Analysis of Experiments
ISYE 6781 Reliability Theory
ISYE 6205 Cognitive Engineering
ISYE 6230 Economic Decision Analy
ISYE 6401 Stat Models & Dsgn Expts
ISYE/Math 6781 Reliability Theory
ISYE 8803 Special Topics - Energy Technology & Policy
ISYE 6679 Computational Methods
ISyE 6414 Regression Analysis
ISYE 6669 Deterministic Optimiz
ISYE 6650 Probabilistic Models

MATH 4261 Math Statistics I
ISYE 6644 Simulation
ISYE 6781 Reliability Theory
ISYE 6679 Computational Methods
ISYE 6225 Engineering Economy
ISYE 6307 Scheduling Theory
ISYE 6230 Economic Decision Analy
ISYE 6401 Stat Models & Dsgn Expts
ISYE 6203 Transp & Supply Chain Sys
ISYE 6402 Time Series Analysis

Mathematics

MATH 4150 Introduction to Number Theory
MATH 4255 Monte Carlo Methods
MATH 4261 Math Statistics I
MATH 4262 Mathematical Statistics II
MATH 4280 Intro to Information Theory
MATH 4305 Linear Algebra
MATH 4317 Analysis I
MATH 4320 Complex Analysis
MATH 4580 Linear Programming
MATH 4581 Classical Mathematical Methods in Engineering
MATH 4581 Math Methods in Engr
MATH 4640 Numerical Analysis I
MATH 4641 Numerical Analysis II
MATH 4803 Graph Theory (**Undergraduate**)
MATH 6014 Graph Theory
MATH 6021 Topology of Euclidean Spaces
MATH 6221 Classical Probability
MATH 6241 Probability I
MATH 6263 Testing Statistical Hypotheses
MATH 6266 Linear Statistical Model
MATH 6321 Complex-Analysis
MATH 6327 Real Analysis
MATH 6337 Real Analysis I
MATH 6421 Algebraic Geometry I
MATH 6455 Differential Geometry I
MATH 6514 Industrial Mathematics I
MATH 6580 Introduction to Hilbert Spaces
MATH 6583 Integral Equations and Transforms
MATH 6640 Num Meth-Part Diff Eqns
MATH 6644 Iterative Methods for Systems of Equations
MATH 6647 Numeric Meth:Dynamic Sys
MATH 6701 Mathematical Methods of Applied Sciences I
MATH 6702 Math Meth-Appl Sci II
MATH 6761 Stochastic Processes I
MATH 7334 Operator Theory
MATH 7581 Calculus Variations

Mechanical Engineering

ME/HP 6758 Numerical Methods in ME
ME 6242 Mechanics of Contact
ME 6201 Principle-Continuum Mech
ME 6201 Principle-Continuum Mech
ME 6222 Mfg Processes & Systems

ME 6244 Rotordynamics
ME 6301 Conduction Heat Transfer
ME 6304 Prin of Thermodynamics
ME 6406 Machine Vision
ME 6441 Dynamics of Mechanical Sys
ME 6601 Intro to Fluid Mechanics
ME 6770 Energy Meth - Elast & Plast
ME 7442 Vibration - Continuous Sys
ME 7301 Trans Ph Multiphase Flow
ISYE 6401 Stat Models & Dsgn Expts
ME 6792 Manufacturing Seminar
AE/ME 6766 Combustion
AE 6765 Kinetics & Thermo Gases
ME 6101 Engineering Design
ME 4193 Tribological Design
ISYE 6739 Statistical Methods
ME 6103 Optimization Engr Design
ME 6602 Viscous Flow
ME 6102 Designing Open Engr Sys
ME 6104 Computer-Aided Design
ME 6203 Inelastic Deform Solids
ME 6223 Automated Manufacturing Process Planning
ME 6224 Machine Tool Analysis and Control
ME 6243 Fluid Film Lubrication
ME 6302 Convection Heat Transfer
ME 6402 Nonlinear Control System
ME 6403 Digital Control Systems
ME 6442 Vibration-Mechanical Sys
ME 6622 Experimental Methods
ME 6758 Numerical Methods in ME
ME 7772 Fund-Fracture Mechanics
ME 4172 Design Sustainable Eng Sys
ME 6201 Principle-Continuum Mech
ME 6404 Adv Ctrl Dsgn Implementation
ME 8933 Special Problems-Therm Sciences
ME 4753 Topics in Engr Practice.ME
ME 4189 Structural Vibrations
ME 6744 Topics in Engineering Practice
ME 6401 Linear Control Systems
ME 7227 Rapid Prototype-Engr
ME 6303 Radiation Heat Transfer
ME 6305 Apps of Thermodynamics
ME 8833 Spec Top-Thermal Science
ME 6766 Combustion I
ME 6203 Inelastic Deform Solids
ME 4791 Mech Behavior-Composites
ME 7774 Fatigue-Materials & Struct
ME 6105 Modeling&Simulation-Dsgn