

Fundamental Courses (at least 1)

CE 544 Advanced Material Science
CE 547 Elasticity
CE 587 Intermediate Fluid Mechanics
CE 639 Critical State Soil Mechanics Theory
CE 546 Advanced Mechanics of Materials
CE531 Advanced Soil Mechanics
CE564 Advanced Traffic Flow Theory&Control
CE 559 Structural Dynamics

ChE 631 Transport Phenomena 1
CHEM 531 Mechanical Properties of Polymers
ESC 551 Environmental Chemistry
GPH 540 Wave Propagation
IE 501 Optimization Techniques I
IE 505 Stochastic Processes & Applications
IE 540 Expert Systems and Applications
IE 544 Decision Analysis
MATH 545 Mathematics of Finance
ME 511(4) Prin. of Material Science&Engineering
ME 523 Elasticity
ME 530 Advanced Dynamics
ME 551(4) Advanced Fluid Mechanics
ME 592 Rheology
ME 601(4) Mech. of Continua 1
ME 602(4) Mech. of Continua 2
ME 618 Mech. Behavior of Mater.
PHYS 501 Classical Dynamics I
PHYS 541 Statistical Mechanics I

(4)Four credits

Numerical/Experimental Courses (at least 1)

CE 505 Appl. Stoch. Analy. & Modell.
CE 530 Adv. Geotech. Eng. Lab.
CE 554 Theory & Design for Measurements in Struc. Eng.
CE 502 Introduction to Finite Elements
CE 563 Meth.of Analysis for Planners&Researcher
CE 59B Meshless Methods for Numerical Modeling

ESC 552 Chemistry for Env. Science & Eng. (Lab)
ESC 594 Dynamic Modeling for Environmental Processes
IE 517 Heuristic Methods in Optimization