Mechanical Engineering and Nuclear Engineering Dual Major

128 credit hours total

YEAR 1

FALL

***MATH 220 (4)**
Analytic Geometry and Calculus I
KSC-3

CHM 210 (4)
Chemistry I

ME 212 (2)
Engineering Graphics
PR/CO: MATH 205 or 220

DEN 160 (1)
College of Engineering Orientation

DEN 161 (1)
Engineering Problem Solving
PR/CO: MATH 150

***ENGL 100 (3)**
Expository Writing I
KSC-1

(15 credit hours)

SPRING

***MATH 221 (4)**
Analytic Geometry and Calculus II
PR: MATH 220 ≥C

***PHYS 213 (5)**
Engineering Physics I
KSC-4
PR/CO: MATH 220

CHE 354 (1)
Basic Concepts in Materials Science and Engineering
(5-week class)
PR: CHM 210, PR/CO: PHYS 213

CHE 355 (1)
Fundamentals of Mechanical Properties
(5-week class)
PR: CHE 354

***COMM 106 (3)**
Public Speaking
KSC-2

***ENGL 200 (3)**
Expository Writing II
KSC-1
PR: ENGL 100

(17 credit hours)

YEAR 2

FALL

MATH 222 (4)
Analytic Geometry and Calculus III
PR: MATH 221 ≥ C

PHYS 214 (5)
Engineering Physics II
PR: PHYS 213
PR/CO: MATH 221

CIS 209 (3)
Computer Programming for Engineers
(Python)
PR: MATH 220 ≥ C

NE 495 (3)
Elements of Nuclear Engineering
PR: MATH 221, PHYS 213

IMSE 250 (2)
Introduction to Manufacturing Processes and Systems
PR/CO: MATH 220

(17 credit hours)

SPRING

MATH 340 (4)
Elementary Differential Equations
PR: MATH 221 ≥ C

CE 333 (3)
Statics
PR: MATH 221, PHYS 213

ME 513 (3)
Thermodynamics I
PR: MATH 221, PHYS 213

●NE 415 (3)
Introduction to Engineering Analysis
PR: NE 495; PR/CO: MATH 340

MATH 551 (3)
Applied Matrix Theory
PR: MATH 220

(16 credit hours)

YEAR 3

FALL

CE 533 (3)
Mechanics of Materials
PR: MATH 221, CE 333 ≥ C or 530 ≥ C

ECE 519 (3)
Electric Circuits for Engineers
PR: PHYS 214

ME 512 (3)
Dynamics
PR: CE 333; PR/CO: MATH 340

●NE 690 (3)
Radiation Protection and Shielding
PR: NE 495, PHYS 214, MATH 340

▲Elective (3)
Social and Behavioral Sciences
KSC-5

IMSE 530 (2)
Engineering Economic Analysis
PR: MATH 220

(17 credit hours)

SPRING

ME 571 (3)
Fluid Mechanics
PR: ME 512 or CE 530, MATH 222
PR/CO: ME 513 or ME 310

●NE 650 (3)
Nuclear Fuel Cycles
PR: MATH 340, NE 415

●NE 612 (3)
Principles of Radiation Detection
PR: NE 495

ME 400 (3)
Computer Applications in Mechanical Engineering
PR/CO: MATH 340

ME 533 (3)
Machine Design I
PR: ME 212, ME 512, CE 533

(15 credit hours)

YEAR 4

FALL

ME 574 (3)
Principles of Engineering Design
PR: ME 571, ME 535 or NE 612, ME 533 or NE 690
PR/CO: ENGL 200

ME 573 (3)
Heat Transfer
PR: MATH 340, ME 571, ME 400 or NE 415

●NE 630 (3)
Nuclear Reactor Theory
PR: NE 495, MATH 340

●NE 640 (3)
Nuclear Reactor Thermal Hydraulics
PR: NE 495; PR/CO: ME 573

▲Elective (3)
Arts and Humanities
KSC-6

(15 credit hours)

SPRING

●NE 585 (3)
Nuclear Engineering Design Projects
PR: ME 574, NE 690, NE 612, NE 630, NE 650

●NE 648 (3)
Nuclear Reactor Laboratory
PR: NE 630, NE 612

***Elective (3)**
Arts and Humanities
KSC-6

ME 570 (4)
Control of Mechanical Systems I
PR: MATH 340, ME 512, ME 400 or NE 415
PR/CO: ME 535 or NE 612

▲Elective (3)
Social and Behavioral Sciences
KSC-5

(16 credit hours)

*** This degree map shows an efficient way to get both the ME and NE degrees. It takes advantage of the fact that students can count 6 required hours towards their institutional electives.*
Dual Degree maps can vary between student to student. Please use this as a guide as you talk to your advisor.

KEY

- = Prerequisite for another course
- PR = Prerequisite requirement
- PR/CO = Prerequisite or concurrent requirement
- * = K-State Core (KSC) course
- ▲ = See department approved electives
- ● = Only offered in the semester shown

Kansas State University | Carl R. Ice College of Engineering

Degree map is for advising purposes only. Students are responsible for complying with University Catalog requirements.