

# Mechanical Engineering and Nuclear Engineering Dual Major

128 credit hours total

YEAR 1		YEAR 2		YEAR 3		YEAR 4	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
<b>*MATH 220 (4)</b> Analytic Geometry and Calculus I KSC-3	<b>*MATH 221 (4)</b> Analytic Geometry and Calculus II PR: MATH 220 ≥ C	<b>MATH 222 (4)</b> Analytic Geometry and Calculus III PR: MATH 221 ≥ C	<b>MATH 340 (4)</b> Elementary Differential Equations PR: MATH 221 ≥ C	<b>CE 533 (3)</b> Mechanics of Materials PR: MATH 221, CE 333 ≥ C or 530 ≥ C	<b>ME 571 (3)</b> Fluid Mechanics PR: ME 512 or CE 530, MATH 222 PR/CO: ME 513 or ME 310	<b>ME 574 (3)</b> Principles of Engineering Design PR: ME 571, ME 535 or NE 612, ME 533 or NE 690 PR/CO: ENGL 200	<b>*NE 585 (3)</b> Nuclear Engineering Design Projects PR: ME 574, NE 690, NE 612, NE 630, NE 650
<b>CHM 210 (4)</b> Chemistry I	<b>*PHYS 213 (5)</b> Engineering Physics I KSC-4 PR/CO: MATH 220	<b>PHYS 214 (5)</b> Engineering Physics II PR: PHYS 213 PR/CO: MATH 221	<b>CE 333 (3)</b> Statics PR: MATH 221, PHYS 213	<b>ECE 519 (3)</b> Electric Circuits for Engineers PR: PHYS 214	<b>*NE 650 (3)</b> Nuclear Fuel Cycles PR: MATH 340, NE 415	<b>ME 573 (3)</b> Heat Transfer PR: MATH 340, ME 571, ME 400 or NE 415	<b>*NE 648 (3)</b> Nuclear Reactor Laboratory PR: NE 630, NE 612
<b>ME 212 (2)</b> Engineering Graphics PR/CO: MATH 205 or 220	<b>CHE 354 (1)</b> Basic Concepts in Materials Science and Engineering (5-week class) PR: CHM 210, PR/CO: PHYS 213	<b>CIS 209 (3)</b> Computer Programming for Engineers (Python) PR: MATH 220 ≥ C	<b>ME 513 (3)</b> Thermodynamics I PR: MATH 221, PHYS 213	<b>ME 512 (3)</b> Dynamics PR: CE 333; PR/CO: MATH 340	<b>*NE 612 (3)</b> Principles of Radiation Detection PR: NE 495	<b>*NE 630 (3)</b> Nuclear Reactor Theory PR: NE 495, MATH 340	<b>*Elective (3)</b> Arts and Humanities KSC-6
<b>DEN 160 (1)</b> College of Engineering Orientation	<b>CHE 355 (1)</b> Fundamentals of Mechanical Properties (5-week class) PR: CHE 354	<b>NE 495 (3)</b> Elements of Nuclear Engineering PR: MATH 221, PHYS 213	<b>*NE 415 (3)</b> Introduction to Engineering Analysis PR: NE 495; PR/CO: MATH 340	<b>*NE 690 (3)</b> Radiation Protection and Shielding PR: NE 495, PHYS 214, MATH 340	<b>ME 400 (3)</b> Computer Applications in Mechanical Engineering PR/CO: MATH 340	<b>*NE 640 (3)</b> Nuclear Reactor Thermal Hydraulics PR: NE 495; PR/CO: ME 573	<b>ME 570 (4)</b> Control of Mechanical Systems I PR: MATH 340, ME 512, ME 400 or NE 415 PR/CO: ME 535 or NE 612
<b>DEN 161 (1)</b> Engineering Problem Solving PR/CO: MATH 150	<b>*COMM 106 (3)</b> Public Speaking KSC-2	<b>IMSE 250 (2)</b> Introduction to Manufacturing Processes and Systems PR/CO: MATH 220	<b>MATH 551 (3)</b> Applied Matrix Theory PR: MATH 220	<b>*Elective (3)</b> Social and Behavioral Sciences KSC-5	<b>ME 533 (3)</b> Machine Design I PR: ME 212, ME 512, CE 533	<b>*Elective (3)</b> Arts and Humanities KSC-6	<b>*Elective (3)</b> Social and Behavioral Sciences KSC-5
<b>*ENGL 100 (3)</b> Expository Writing I KSC-1	<b>*ENGL 200 (3)</b> Expository Writing II KSC-1 PR: ENGL 100			<b>IMSE 530 (2)</b> Engineering Economic Analysis PR: MATH 220			

*\*\* 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.*

(15 credit hours)

(17 credit hours)

(17 credit hours)

(16 credit hours)

(17 credit hours)

(15 credit hours)

(15 credit hours)

(16 credit hours)

## KEY

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