

Early-Entry Pathway

Welcome to North Dakota State University’s Early-Entry Pathways program.

MANUFACTURING ENGINEERING

If you are interested in a degree in manufacturing engineering, you can take early-entry courses to get started on this degree. Early-entry courses listed meet the requirements or electives of this major. These courses may be used to meet your general education requirements as well. We suggest you also review the list of recommended general education courses.

Calculus I

MATH 165 | 4 credits
General Education Category: R

Limits, continuity, differentiation, Mean Value Theorem, integration, Fundamental Theorem of Calculus and applications. Prereq: MATH 105, MATH 107 or placement.

General Chemistry I

CHEM 121 | 3 credits
General Education Category: S

General Chemistry I Lab

CHEM 121L | 1 credit
General Education Category: S

Matter, measurement, atoms, ions, molecules, reactions, chemical calculations, thermochemistry, bonding, molecular geometry, periodicity, and gases. Prereq or Co-req: MATH 103, MATH 107 or Math placement.

Circuit Analysis I

EE 206 | 4 credits
Category: Does not meet NDSU’s general education requirements.

Linear electric circuits. Component models, circuit laws, transient analysis, design issues, computer tools. 3 lectures, 1 two-hour recitation/laboratory. Prereq: MATH 166 with a grade of C or better. Co-req: MATH 129.

General Chemistry II

CHEM 122 | 3 credits
General Education Category: S

Intermolecular forces, liquids, solids, kinetics, equilibria, acids and bases, solution chemistry, precipitation, thermodynamics, and electrochemistry. Prereq: CHEM 121.

Engineering Mechanics I

ME 221 | 3 credits
General Education Category: Does not meet NDSU’s general education requirements.

Scalar and vector approaches to trusses, frames and machines, internal forces, friction forces, center of gravity, centroid, and moment inertia. Prereq: MATH 165.

Engineering Mechanics II

ME 222 | 3 credits
General Education Category: Does not meet NDSU’s general education requirements.

Dynamics of particles and rigid bodies, work energy, impulse-momentum, principles of conservation of energy and momentum. Prereq: ME 221, MATH 166.

Mechanics of Materials

ME 223 | 3 credits
General Education Category: Does not meet NDSU’s general education requirements.

Introduction to stress, strain, and their relationships; torsion of circular shafts, bending stresses, deflection of beams, stress transformations. Prereq: ME 221.

Computer Science Problem Solving

CSCI 159 | 3 credits
General Education Category: R

Computer-based problem solving techniques are introduced in the context of the Internet, including web-site development. Programming concepts, data structures and algorithms, as well as modeling techniques are discussed.

NOTES
