NDSU | OFFICE OF TEACHING AND LEARNING

Early-Entry Pathway

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

INDUSTRIAL ENGINEERING & MANAGEMENT

If you are interested in a degree in industrial engineering & management, 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.

Engineering Mechanics I
ME 221 | 3 credits
General Education Category: Does not meet NDSU's general education requirements.

Scaler 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.

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.

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.

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.

Introduction to Computing
ECE 173 | 4 credits
Category: Does not meet NDSU's general education requirements.

Programming in a high level language with applications to engineering computation, analysis, and design. 3 lectures, 1 2-hour laboratory. Prereq: MATH 103 or higher.

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.

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.

Elements of Accounting I
ACCT 200 | 3 credits
General Education Category: Does not meet NDSU's general education requirements.

An introduction to accounting to enable the student to achieve a working knowledge of accounting and its uses. Emphasizes the basic concepts and approaches of accounting applied to businesses, the accounting cycle, and the preparation of the income statement and balance sheet. Co-req: TL 116.

Elements of Accounting II
ACCT 201 | 3 credits
General Education Category: Does not meet NDSU's general education requirements.

Emphasizes the use of accounting information as a basis for decision-making. Topics include the statement of cash flows, financial statement analysis, and managerial accounting (budgeting, job-order costing, cost-volume-profit analysis, short-term decision making, and capital budgeting). Prereq: ACCT 200.

View all pathway guides & a general education guide at >> **bit.ly/EE_pathways_guides**.

Fundamentals of Accounting
ACCT 102 | 3 credits
General Education Category: Does not meet NDSU's general education requirements.

Introduces financial statements and other accounting information to make personal and business decisions. Not available to majors and accounting minors in the College of Business Administration. Student may not have previously passed or be concurrently enrolled in ACCT 201.

Principles of Macroeconomics
ECON 202 | 3 credits
General Education Category: B

Aggregate income and employment analysis; business cycles, unemployment, inflation and economic growth; fiscal policy; money and monetary policy; the U.S. economy and the world economy.

Principles of Microeconomics
ECON 201 | 3 credits
General Education Category: B

Nature, method, and scope of economic analysis; economic scarcity, resources, specialization of labor; supply-demand analysis; production and cost analysis; product and resource market structures; distribution of income; international trade.

College Composition I
ENGL 110 | 3 credits
General Education Category: C

Guided practice in the reading and writing of various genres for different situations and audiences. Includes research on the web and in the library. Prereq: English placement.

College Composition II
ENGL 120 | 3 credits
General Education Category: C

Advanced practice in reading and writing of various genres for different situations and audiences. Includes field research, collaboration, and visual communication. Prereq: ENGL 110 or placement.

Fundamentals of Public Speaking
COMM 110 | 3 credits
General Education Category: C

Theory and practice of public speaking with emphasis on content, organization, language, delivery, and critical evaluation of messages.

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