

Associate of Science (AS) Degrees

Students seeking an Associate of Science (AS) degree from Normandale Community College must successfully complete the degree requirements determined by the specific program, which include 30 credits from at least six MnTC Goals.

Other Graduation Requirements:

Complete the specific major requirements.

- Earn a cumulative grade point average (GPA) of 2.00 or higher for college-level coursework completed at Normandale.
- Earn a minimum of 20 college level classes at Normandale.

Engineering Foundations (AS)

The Associate of Science in Engineering Foundations is a rigorous curriculum designed to prepare students for transfer as juniors to a four year program in a variety of engineering majors. It meets lower division requirements for most four year engineering schools, but is designed specifically for transfer to the Institute of Technology at the University of Minnesota. It is the basis of a transfer agreement that facilitates credit transfer from Normandale to the University. Students who complete the A.S. may apply a minimum of 64 credits towards a degree in engineering at the University.

Degree Requirements:

Students considering completion of the AS in Engineering Foundations at Normandale should do the following:

- Select an engineering specialty, such as civil, chemical, mechanical.
- Determine the four-year college or university to which they plan to transfer.
- Develop a plan for coursework that includes:
 - the core courses

- the required General Education courses
- all courses for one engineering specialty
- a total of at least 64 credits.

The plan must include any preparatory coursework needed to prepare the student for calculus, calculus-based physics and principles of chemistry, which are core courses.

For information on specific schools, consult current transfer guides in the Mahendra Nath Career and Academic Planning Center and talk with a counselor.

Required Core courses: (30 cr)

MATH 1510	Calculus 1 (5)
MATH 1520	Calculus 2 (5)
MATH 2510	Calculus 3 (5)
MATH 2520	Calculus 4 (5)
PHYS 1121	Physics with Calculus 1 (5)
PHYS 1122	Physics with Calculus 2 (5)

Required General Education courses:

ENGC 1101	Freshman Composition
ENGL XXXX	Select from 1100-2161
HIST XXXX	Select from the following: 1101, 1102, 1103, 1111, 1112, 1133
Electives	Complete additional elective courses to reach 64 credits.

Engineering Specialty Requirements: (12-25 cr)

Students must select one of the following engineering specialty options and must have a total of at least 60 credits in order to receive the Associate of Science degree in Engineering Foundations. Consult current transfer guides for specific college requirements. Students must file a graduation petition early in their final semester of coursework.

Aerospace Engineering (25-26 cr)

CHEM	1061 (5)
CSCI	1111 or 1113 or 1203 (3-4)
ENGR	2001, 2235, 2236, and 2301 (13)
PHYS	2250 (4)



Biomedical Engineering (22-27 cr)

BIOL	1105 (4) [strongly recommended]
CHEM	1061, 1062, 2061 (15)
CSCI	1111 or 1113 (3-4)
MATH	2400 (4)

Bioproducts and Biosystems Engineering (25-44 cr)

BIOL	1105 (4)
CHEM	1061, 1062 (10)
ENGR	2235, 2236 (6)

Choose one emphasis:

Bioproducts

CHEM	2061 (5)
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Bioprocessing and Food

CHEM	2061, 2062 (10)
ENGR	2001, 2301 (7)
MATH	2400 (4)

Environmental and Ecological

ENGR	2001, 2301 (7)
MATH	2400 (4)

Chemical Engineering (24 cr)

CHEM	1061, 1062, 2041, 2061, 2062 (24)
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Civil Engineering (20-24 cr)

CHEM	1061, 1062 (10)
ENGR	2235, 2236 (6)
MATH	2400 (4)

Computer Engineering (25 cr)

CSCI	2001, 2002, 2011 (12)
ENGR	2001, 2011, 2301, 2302 (13)

Electrical Engineering (15-16 cr)

CHEM	1061 (5)
CSCI	1111 or 1113 (3)
ENGR	2001, 2011, 2301, 2302 (8)
CHEM	1062 or PHYS 2250 (4-5)

Geological Engineering (24 cr)

CHEM	1061, 1062 (10)
ENGR	2235, 2236 (6)
GEOL	1101 (4)
MATH	2400 (4)

Materials Science Engineering (22 cr)

CHEM	1061, 1062, 2061 (15)
ENGR	2235 (3)
PHYS	2250 (4)

Mechanical Engineering (29 - 30 cr)

BIOL	1105 (4) [strongly recommended]
CHEM	1061 (5)
CSCI	1111 or 1113 (3-4)
ENGR	1020, 2001, 2235, 2236, 2301 (17)

