

North Hennepin CC
Brooklyn Park, Minnesota
Transfer Plan to
College of Science and Engineering
University of Minnesota
7/25/20

These are the "technical" courses that CSE recommends students complete before applying for transfer. You may apply before completing all the courses. Numbers in () and italics are U of M courses satisfied by a course at North Hennepin CC. Courses with a "q" are discontinued quarter numbers.

Applicants should consider completion of the Minnesota Transfer Curriculum (MnTC) or see:

www.admissions.tc.umn.edu/cle

for information concerning the liberal arts requirements.

Engineering Majors

Aerospace Engineering

CHEM 1061(*1061/1065*)

CSCI 1120(*1113*) or 1130(*1103*)

ENGR 1000(*Transfers*)

MATH 1221(*1271*), 1222(*1272*), 2220(*2263*), 2300(*2142*), 2400(*2066*)
{2300 & 2400 together equals *MATH 2243*}

PHYS 1601(*1301*), 1602(*1302*)

Biomedical Engineering

BIOL 1001(*1009*) strongly recommended

CHEM 1061(*1061/1065*), 1062(*1062/1066*), 2061(*2301*)

CSCI 1120(*1113*) *in lieu of BMEN 2401*

ENGR 1000(*Transfers*)

MATH 1221(*1271*), 1222(*1272*), 2010(*STAT 3021*), 2220(*2263*),
2300(*2142*), 2400(*2066*) {2300 & 2400 together equals *MATH 2243*}

PHYS 1601(*1301*), 1602(*1302*)

Bioproducts and Biosystems Engineering

BIOL 1001(*1009*)

CHEM 1061(*1061/1065*), 1062(*1062/1066*)

ENGR 1000(*Transfers*)

MATH 1221(*1271*), 1222(*1272*), 2220(*2263*), 2300(*2142*), 2400(*2066*)
{2300 & 2400 together equals *MATH 2243*}

PHYS 1601(*1301*), 1602(*1302*)

Courses for a particular emphasis:

Bioproducts Engineering Emphasis

CHEM 2061(*2301*), 2062(*2302*), 2311)*

Bioprocessing & Food Engineering Emphasis

CHEM 2061(2301), 2062(2302, 2311)*

Environmental & Ecological Engineering Emphasis

CHEM 2061(2301) **or** Biochemistry

* Indicates classes that might be counted as technical electives.

Chemical Engineering

CHEM 1061(1061/1065), 1062(1062/1066), 2061(2301), 2062(2302, 2311), 2073(perhaps in lieu of 2121)

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302)

CHEN 2001 - Material and Energy Balances is now a fall semester class (no longer offered in the summer) and it is a prerequisite class for the junior sequence.

- If a student transfers to the U of M after the freshman year, they will take the same classes as sophomores in Chemical Engineering and the student should graduate in three years.

- A student transferring after two years will take Physical Chemistry, CHEN 2001, and perhaps a few other classes. It will take the student three years to graduate.

Civil Engineering

CHEM 1061(1061/1065), 1062(1062/1066), 2061(2301 for environmental emphasis)

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302)

NOTE: Dynamics recommended for transportation and structural emphasis

Computer Engineering

CSCI 1120(1113) in lieu of EE 1301, 2002(1933), 2010(2011)

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302)

See note under Electrical Engineering

Electrical Engineering

CHEM 1061(1061/1065)

CSCI 1120(1113) in lieu of EE 1301

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302), {**CHEM** 1062(1062/1066) **or** Modern Physics}

NOTE: ENGR 2501 + 2511(EE 3009q, 1400q) plus EE 2101(1.5 cr) and 2006(.5 cr) at IT equals EE 2001 and 2002. These classes are offered during the fall semester only and may be taken with EE 2011(Linear Systems and Circuits).

EE 2006 and 2101 are only offered during the fall semester and may be taken concurrently.

Environmental Engineering

BIOL 1001(1009)

CHEM 1061(1061/1065), 1062(1062/1066), 2061(2301)

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

NSCI 1100(ESCI 1001)

PHYS 1601(1301), 1602(1302)

Geoengineering

CHEM 1061(1061/1065), 1062(1062/1066)

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

NSCI 1100(ESCI 1001)

PHYS 1601(1301), 1602(1302)

Industrial & Systems Engineering

BIOL 1001(1009) strongly recommended

BUS 1600(in lieu of *MKTG* 3001)

CHEM 1061(1061/1065)

CSCI Python **or** 1120(1113)

ECON 1070(in lieu of *ECON* 1101)

ENGR 1000(Transfers)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142)

PHYS 1601(1301), 1602(1302)

Transfer students interested in Industrial & Systems Engineering will be considered on a case-by-case basis to take the sophomore and junior classes concurrently. Successful completion of the classes would allow graduation in two years.

Materials Science Engineering

CHEM 1061(1061/1065), 1062(1062/1066), 2061(2301)

ENGR 1000

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302)

Phys 1501/1511 & 1502/1512 have been approved as lower division writing intensive effective Fall 2001 and Fall 1998 respectively.

Mechanical Engineering

BIOL 1001(1009) strongly recommended

CHEM 1061(1061/1065)

CSCI 1120(1113)

ENGR 1000 + 1200(ME 2011)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals MATH 2243}

PHYS 1601(1301), 1602(1302)

Math, Computer Science, Physical Sciences

Astrophysics

CSCI 1120(1113) strongly recommended

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals MATH 2243}

PHYS 1060/1061(Transfers), 1050 or 1070/1071(AST 1001), 1601(1301),
1602(1302)

Chemistry

CHEM 1061(1061/1065), 1062(1062/1066), 2061(2301), 2062(2302, 2311),
2073(2101, 2111)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals MATH 2243} **or** 2010(STAT 3021)

PHYS 1601(1301), 1602(1302)

Computer Science

CSCI 2001 + 2011(1133), 2002(1933), 2010(2011), 2020(2021),
2030(Transfers)

MATH 1221(1271), 1222(1272), 2010(STAT 3021), 2300(in lieu of CSCI
2033)

PHYS 1601(1301), {**PHYS** 1602(1302) **OR** **CHEM** 1061(1061/1065)}

Data Science

CSCI 2001 + 2011(1133)

MATH 1221(1271), 1222(1272), 2010(STAT 3021), 2220(2263), 2300(in
lieu of CSCI 2033)

PHYS 1601(1301), {**PHYS** 1602(1302) **OR** **CHEM** 1061(1061/1065)}

NOTE

CSCI 2002(1933) + CSCI 3081W at the U satisfies CSCI 2081

CSCI 2010(2011) + CSCI 4041 at the U satisfies CSCI 3041

CSCI 2020(2021) + CSCI 4061 at the U satisfies CSCI 3061

Taking CSCI 2002, 2010 & 2020 will in no way shorten the program as
additional classes must be taken at the U.

Earth Science

CHEM 1061(1061/1065), 1062(1062/1066)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

NSCI 1100(*ESCI* 1001), 1140(*ESCI* 1002), 1200/1201(*ESCI* 1006)

PHYS 1601(1301), 1602(1302)

Environmental Geosciences

CHEM 1061(1061/1065)

MATH 1221(1271), 1222(1272), 1130(*STAT* 3011) **or** 1210(*STAT* 3011) **or**
2010(*STAT* 3021)

NSCI 1100(*ESCI* 1001), 1140(*ESCI* 1002), 1200/1201(*ESCI* 1006)

PHYS 1601(1301), 1602(1302)

Mathematics

CSCI 1120(1113) **or** 1130(1103)

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302)

Physics

CSCI 1120(1113) strongly recommended

MATH 1221(1271), 1222(1272), 2220(2263), 2300(2142), 2400(2066)
{2300 & 2400 together equals *MATH* 2243}

PHYS 1601(1301), 1602(1302)