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Transfer Guide for
UNIVERSITY OF MINNESOTA
INSTITUTE of TECHNOLOGY

University of Minnesota Contact:

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The University of Minnesota Office of Admissions handles all applications for undergraduate admission to IT. Their website can be found at: <http://admissions.tc.umn.edu/>. You're considered a freshman applicant if you have not earned college credit after high school graduation; all other individuals are classified as transfer applicants. High school graduates who have completed less than a full year of college course work at the time of application will be considered for admission using a combination of transfer and freshman admissions criteria. Transfer students who have completed a year or more of college work are considered for admission with advanced standing. Transfer admissions criteria can be found at: http://admissions.tc.umn.edu/admissioninfo/trans_requirements.html and freshman admissions criteria can be found at: http://admissions.tc.umn.edu/AdmissionInfo/fresh_requirements.html

Transfer admission requirements

All transfer applicants must have successfully completed the University's high school preparation requirements. High school preparation criteria can be found at:
http://admissions.tc.umn.edu/AdmissionInfo/trans_requirements.html#hsprep

Students are strongly advised to plan curriculum giving preference to engineering, math, and science coursework first. By the time you apply for admission, you should have completed most of the mathematics, chemistry, physics, and computer science courses required for your preferred major. *Counselors and advisors are available on both the Coon Rapids and Cambridge Campuses to assist students in academic planning. To schedule an appointment, students may call 763.433.1230 (Coon Rapids) or 763.433.1830 (Cambridge).*

Admission is based on the calculation of a "technical grade point average" (GPA) using grades in calculus, chemistry, computer science, calculus-based physics, engineering, and calculus-based statistics. If a specific course has been repeated, only the second grade is used in the "technical GPA" for the purpose of admission.

Admissions Deadlines: The deadline for Fall admission is March 1st (priority deadline) with the final deadline of June 1st. For Spring admissions the deadline is: October 15th. Students may check the University of Minnesota Transfer Student Guide for the current year that is available in the Counseling and Advising area on campus.

Liberal Education Requirements SEMESTER SYSTEM REQUIREMENTS

Complete either #1 or 2 below

1. MINNESOTA TRANSFER CURRICULUM OR THE COMMUNITY COLLEGE ASSOCIATE OF ARTS

The public higher education colleges and universities in Minnesota have developed a common liberal education curriculum, called the **Minnesota Transfer Curriculum (MnTC)**. Students who complete the MnTC at one of the participating schools and then transfer to the University of Minnesota-Twin Cities have fulfilled the University's first-year writing requirement, as well as the liberal education requirements outlined below.

As part of the MnTC, the Council on Liberal Education on the University of Minnesota - Twin Cities campus has established a common set of liberal education requirements for all students completing bachelor's degrees at the University. **This guide shows which community college courses count toward the liberal education requirements on the Twin Cities campus.** Please see the Course Applicability Website (www.uselectmn.org) for a complete list of courses that have been reviewed for transfer to the Twin Cities Campus.

If you do not plan to complete the Minnesota Transfer Curriculum, you should select your community college courses to fulfill the liberal education requirements according to the courses on this guide listed under the three areas of: Writing Intensive Requirements, Diversified Core Curriculum and Designated Themes of Liberal Education.

For general transfer admission and application information, see the transfer website at: www.admissions.tc.umn.edu/admissioninfo/trans. This web site also contains additional information on transfer policies, liberal education requirements, writing intensive requirements and petition forms for transfer coursework.

2. U OF M LIBERAL EDUCATION REQUIREMENTS

The Liberal Education (LE) requirements consist of the **Writing Intensive Requirements, Diversified Core Curriculum** and the **Designated Themes of Liberal Education**.

WRITING INTENSIVE REQUIREMENT

What is the Writing Intensive requirement?

The new writing requirement, approved by the Council on Liberal Education (CLE), defines the Writing Intensive requirement as:

- a. one first-year course, and
- b. four writing intensive courses--at least two of which must be upper division (one of the upper division must be in your major)

To find out more about the writing intensive requirement, see: admissions.tc.umn.edu/cle/wi_courses.html

Freshman Writing	English 1121
Additional Lower Division Writing Intensive Courses	CHEM 1061; ENGL 1188, 2202, 2203, 2204, 2209, 2241, 2261; JOUR 2121; PHYS 1117 & 1117L, 1118 & 1118L, 1127 & 1127L, 1128 & 1128L, 1317, 1327, 1328

DIVERSIFIED CORE CURRICULUM

Students must meet the requirements in each of the following categories: **Physical and Biological Sciences, Social Sciences/Humanities, and Mathematical Thinking** as outlined in the table below.

Physical and Biological Sciences:	A minimum of two courses, totaling at least 8 semester credits, including: a. one lab course in physical sciences b. one lab course in biological sciences	a. Physical Sciences: CHEM 1020, 1061, 1062, 2061, 2062; NATS 1003, 1005, 1007; PHYS 1117 & 1117L, 1118 & 1118L, 1127 & 1127L, 1128 & 1128L, 1317, 1318, 1327, 1328
		b. Biological Science: BIOL 1100, 1101, 1103 & 1103L, 1106, 1107, 2113, 2114, 2201, 2202, 2202 & 2203, 2206, 2207
Social Sciences/Humanities: A minimum of at least 15 semester credits distributed as follows	Historical Perspectives - at least 3 credits	ANTH 2202, 2261; HIST 1101, 1102, 1103, 1110, 1111, 1121, 1141, 2211, 2221, 2240, 2242, 2262; WOST 2242
	Social Science - at least 6 credits	ANTH 2201, 2251; ECON 1100, 2205, 2206; GEOG 1101, 1102, 1104, 1106, 1108; HUM 2232, 2233, 2234; JOUR 1111; POLS 1111, 1121, 1131, 2202, 2225, 2245; PSYC 1110, 1150, 2215, 2250, 2260; SOC 1102, 1104, 1111, 1145, 2207, 2221, 2260, 2261 WOST 1145, 2233, 2234
	Arts/Humanities - at least 6 credits (including 3 credits of literature)	Literature: ENGL 2202, 2203, 2204, 2207, 2208, 2209, 2210, 2220, 2225, 2230, 2235, 2241, 2261; SPAN 2221; THTR 2230 ART 1100, 1107, 1108, 1115, 1116, 1117, 1121, 1122, 1131, 1132, 1141, 1142, 1144, 1145, 1150, 1151, 1165, 1166, 1167, 1170, 1171, 1198, 2241, 2242, 2251, 2252, 2261, 2262, 2281; CHIN 1111; FREN 1111; GERM 1111; HUM 1103, 1141, 1151, 1161, 2231, 2241, 2251, 2261, 2271; MUSC 1100, 1101, 1103, 1104, 1110, 1111, 1115, 1125, 2201, 2202; PHIL 1101, 1110 1115; SPAN 1111; SWED 1111; THTR 1101, 1120, 2205, 2206, 2211, 2220, 2221
Mathematical Thinking:	One course totaling at least 3 semester credits. Courses in logic and statistics may also count towards this requirement.	MATH 1100, 1110, 1111, 1120, 1200, 1201, 1210, 1300, 1310, 1400, 1401, 2201 & 2210, 2230; PHIL 1105; SOCS 1108, 1109

DESIGNATED THEMES IN LIBERAL EDUCATION

A minimum of four courses of at least 3 credits, including one course in each of the following: **Cultural Diversity, International Perspectives, Environment, and Citizenship and Public Ethics**. For more information on the definition of these terms, please see the Transfer Course Petition Guide at: admissions.tc.umn.edu/PDFs/TC_guide.pdf

Cultural Diversity:	ASL 1101; ENGL 2230, 2235; HIST 1101, 2211, 2221, 2240, 2242; HUM 2233; MUSC 1110; PSYC 1150; SOC 1111, 1145, 2207; WOST 1126, 1145, 2233, 2242
International Perspectives:	ANTH 2201, 2261; ART 1100, 1107, 1108; BUS 2240; CHIN 1111; ECON 2205; ENGL 2210, 2220, 2225; FREN 1101, 1102, 1111, 2201, 2202; GEOG 1102, 1104, 1106; GERM 1101, 1102, 1111, 2201, 2202; HIST 1102, 1103, 1110, 1111, 1121, 1141, 2262; HPER 1112; HUM 1111, 1112, 1141, 1151, 1161, 2231, 2232, 2234, 2241, 2251, 2261, 2271; MUSC 1101, 2201, 2202; PHIL 1115; POLS 1131; SPAN 1111, 2201, 2202, 2221; SWED 1104, 1105, 1106, 1111; WOST 2234
Environment:	ANTH 2251; BIOL 1103; GEOG 1103; HPER 1112; NATS 1051
Citizenship and Public Ethics:	BUS 1122; HIST 2211; HPER 1110; PHIL 1110; POLS 1111, 1121, 2202, 2225

If you would like to have a course not on the list reviewed to fulfill a **Liberal Education** or **Writing Intensive** requirement, you may request an evaluation by submitting a *Transfer Course Petition*. For more information see the following documents:

- [Transfer Course Petition Guide](https://admissions.tc.umn.edu/PDFs/TC_guide.pdf) at: admissions.tc.umn.edu/PDFs/TC_guide.pdf
- [Transfer course Petition Instructions](https://admissions.tc.umn.edu/PDFs/TC_instructions.pdf) at: admissions.tc.umn.edu/PDFs/TC_instructions.pdf
- [Transfer course Petition form](https://admissions.tc.umn.edu/PDFs/TC_form.pdf) at: admissions.tc.umn.edu/PDFs/TC_form.pdf

It is advised that students meet with an academic counselor or advisor for an academic advising session to assist students in understanding the sequencing of courses. For planning purposes a guide has been devised as to when engineering preparatory classes are commonly offered at Anoka Ramsey Community College.

ENGINEERING

Course	Title	Semester Typically offered	Credits
ENGR 1100	Introduction to Engineering	Fall, Spring	2
ENGR 1111	Engineering Graphics	Spring	3
ENGR 2218	Digital Logic	Fall	4
ENGR 2219	Linear Circuits I	Spring	4
ENGR 2221	Digital Fundamentals	Fall	2
ENGR 2240	Thermodynamics	Fall	3
ENGR 2241	Statics	Fall	3
ENGR 2242	Dynamics	Spring	3
ENGR 2243	Mechanics of Materials	Spring	3

MATH

Course	Title	Semester Typically offered	Credits
MATH 1200	College Algebra I	Fall, Spring, Summer	3
MATH 1201	College Algebra and Trigonometry	Fall, Spring, Summer	4
MATH 1210	Pre-Calculus	Fall, Spring	5
MATH 1400	Calculus I	Fall, Spring, Summer	5
MATH 1401	Calculus II	Fall, Spring	5
MATH 2100	Discrete Mathematics	Spring	4
MATH 2200	Linear Algebra	Fall	4
MATH 2201	Intro to Linear Algebra	Fall	2
MATH 2210	Differential Equations	Spring	4
MATH 2220	Multivariable Calculus/Vector Analysis	Fall, Spring	5
MATH 2230	Probability and Statistics		3

PHYSICS

Course	Title	Semester Typically offered	Credits
PHYS 1327	College Physics I	Fall, Spring	6
PHYS 1328	College Physics II	Spring	6

CHEMISTRY

Course	Title	Semester Typically offered	Credits
CHEM 1061	Principles of Chemistry I	Fall, Spring, Summer	4
CHEM 1062	Principles of Chemistry II	Fall, Spring	4
CHEM 2061	Organic Chemistry I	Fall	5
CHEM 2062	Organic Chemistry II	Spring	5

COMPUTER SCIENCE

Course	Title	Semester Typically offered	Credits
CSCI 1106	Fundamental of Computer Science I	Fall, Spring	4
CSCI 1107	Fundamental of Computer Science II	Spring	4

These are the "technical" courses that IT 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 Anoka-Ramsey CC. Course number with a "q" are discontinued quarter numbers. Courses with a "W" transfer as Writing Intensive. Some 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.

Aerospace Engineering

CHEM 1061(*1021*)

CSCI {1102 + 1103 (*1113*)} **or** 1106(*1113*) **or** 1125(*1103*)

ENGR 1100(*Tr.*), 2241(*AEM 2011*), 2242(*AEM 2012*), 2243(*AEM 3031*) {combination of 2219 + (2218 **or** 2221) satisfies EE 3005, 3006}

MATH 1400(*1271*), 1401(*1272*), 2201(*2142*) **or** 2200(*Tr.*), 2210(*2066*), 2220(*2263*) {(2201 **or** 2200) & 2210 together equals *Math 2243*}

PHYS 1327(*1301W*), 1328(*1302W*)

ENGR 2240(*ME 3331*) transfers, but the material is covered in more comprehensive ME 3324-Thermal Science. Students who have taken ENGR 2240 will be better prepared for this more mathematical treatment of similar material.

Biomedical Engineering

BIOL 1106(*BIOL 1009*)*

BMED 1100(*BMEN 1601*), 2100(*1602*) Suggested 2200, 2297, 2400(*These classes do transfer and are suggested. However they will not satisfy any degree requirements.*)

CHEM 1061(*1021*), 1062(*1022*), 2061(*2301*)

CSCI [{1102 + 1103 (*1113*)} **or** 1106(*1113*) in lieu of BMEN 2401]

Math 1400(*1271*), 1401(*1272*), 2201(*2142*) **or** 2200(*Tr.*), 2210(*2066*), 2220(*2263*) {(2201 **or** 2200) & 2210 together equals *Math 2243*}, 2230(*Stat 3021*)

Phys 1327(*1301W*), 1328(*1302W*)

* Indicates classes that transfer, but are no longer required for the program effective fall 2006.

Bioproducts and Biosystems Engineering

BIOL 1106(*BIOL 1009*)

CHEM 1061(*1021*), 1062(*1022*)

ENGR 1100(*Tr.*), 2240(*ME 3331*), {2241(*AEM 2011*) & 2242(*AEM 2012*)} in lieu of BBE 3001

MATH 1400(*1271*), 1401(*1272*), 2201(*2142*) **or** 2200(*Tr.*), 2210(*2066*), 2220(*2263*) {(2201 **or** 2200) & 2210 together equals *Math 2243*}

PHYS 1327(*1301W*), 1328(*1302W*)

Courses for a particular emphasis:

Bioproducts Engineering Emphasis

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

Bioprocessing & Food Engineering Emphasis

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

ENGR 2219 + (2218 **or** 2221) satisfies EE 3005, 3006

MATH 2230(*Stat 3021*)

Environmental & Ecological Engineering Emphasis

ENGR 2219 + (2218 **or** 2221) satisfies EE 3005, 3006

MATH 2230(*Stat 3021*)

* Indicates classes that might be counted at technical electives.

MATH 2230(*Stat 3021*)

* Indicates classes that might be counted at technical electives.

Chemical Engineering

CHEM 1061(1021), 1062(1022), 2061(2301), 2062(2302, 2311)

ENGR 1100(Transfers)

MATH 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}

PHYS 1327(1301W), 1328(1302W)

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.

ENGR 2240(ME 333I) will be accepted as a technical elective.

Civil Engineering

CHEM 1061(1021), 1062(1022), 2061(2301 for environmental emphasis)

ENGR 1100(Tr.), 2241(AEM 2011), 2242(AEM 2012 for transportation and structural emphasis), 2243(AEM 3031)

MATH 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}, 2230(Stat 3021)

PHS 1327(1301W), 1328(1302W)

ENGR 2240(ME 333I) will be accepted as a technical elective.

Computer Engineering

CSCI 1106(1113), 1107(1902), 1155(1106 + 1155 together equals CSCI 1901)

ENGR 1100(Tr.), 2218(EE 2301), 2219(EE 2001, 2002), 2220(EE 2011)

MATH 1400(1271), 1401(1272), 2100(CSCI 2011), 2100(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2100 **or** 2200) & 2210 together equals *Math 2243*}

PHYS 1327(1301W), 1328(1302W)

ENGR 2240(ME 333I) will be accepted as a technical elective. This may be approved by petition.

Electrical Engineering

CHEM 1061(1021)

CSCI {1102 + 1103 (1113)} **or** 1106(1113) in lieu of EE 1301

ENGR 1100(Tr.), 2218(EE 2301), 2219(EE 2001, 2002), 2220(EE 2011)

MATH 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}

PHYS 1327(1301W), 1328(1302W), {CHEM 1062(1022) **or** Modern Physics}

ENGR 2240(ME 333I) will be accepted as a technical elective. This may be approved by petition.

Geological Engineering

CHEM 1061(1021), 1062(1022)

ENGR 1100(Tr.), 2241(AEM 2011), 2242(AEM 2012), 2243(AEM 3031)

MATH 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}, 2230(Stat 3021)

NATS 1003(Geo 1001)

PHYS 1327(1301W), 1328(1302W)

ENGR 2240(ME 333I) will be accepted as a technical elective.

Materials Science Engineering**CHEM** 1061(1021), 1062(1022), 2061(2301)**ENGR** 1100(Tr.), 2241(AEM 2011), 2243(AEM 3031)**MATH** 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}**PHYS** 1327(1301W), 1328(1302W)**Mechanical Engineering****BIOL** 1106(BIOL 1009) strongly recommended**CHEM** 1061(1021)**CSCI** {1102 + 1103 (1113)} **or** 1106(1113)**ENGR** 1100 + 1111(ME 2011), 2240(ME 3331), 2241(AEM 2011), 2242(AEM 2012), 2243(AEM 3031) {2241 & 2242 together equals *AEM 2021*} {combination of 2219 + (2218 **or** 2221) satisfies EE 3005, 3006}**MATH** 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}**PHYS** 1327(1301W), 1328(1302W)**Math, Computer Science, Physical Sciences****Astrophysics****MATH** 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}**NATS** 1001(AST 1001)**PHYS** 1327(1301W), 1328(1302W)**Chemistry****CHEM** 1061(1021), 1062(1022), 2061(2301), 2062(2302, 2311)**MATH** 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263), {(2201 **or** 2200) & 2210 together equals *Math 2243 or 2230(Stat 3021)*}**PHYS** 1327(1301W), 1328(1302W)**Computer Science****CSCI** 1106(1113), 1107(1902), 1155(1106 + 1155 together equals CSCI 1901), 2251(Tr.), 2253(2021)**MATH** 1400(1271), 1401(1272), 2100(CSCI 2011), 2201(2142) **or** 2200(Tr.), 2210(2066), {(2100 **or** 2200) & 2210 together equals *Math 2243*}, 2230(Stat 3021)**PHYS** 1327(1301W), 1328(1302W)**Geology/Geophysics****CHEM** 1061(1021), 1062(1022)**MATH** 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}**NATS** 1003(Geo 1001)**PHYS** 1327(1301W), 1328(1302W)**Mathematics****CSCI** {1102 + 1103 (1113)} **or** 1106(1113) **or** 1125(1103)**MATH** 1400(1271), 1401(1272), 2201(2142) **or** 2200(Tr.), 2210(2066), 2220(2263) {(2201 **or** 2200) & 2210 together equals *Math 2243*}**PHYS** 1327(1301W), 1328(1302W)

Physics

CSCI {1102 + 1103 (*1113*)} **or** 1106(*1113*) **or** 1125(*1103*)

MATH 1400(*1271*), 1401(*1272*), 2201(*2142*) **or** 2200(*Tr.*), 2210(*2066*), 2220(*2263*) {(2201 **or** 2200) & 2210 together equals *Math 2243*}

PHYS 1327(*1301W*), 1328(*1302W*)

Statistics

BIOL 1106(*BIOL 1009*)

CHEM 1061(*1021*), 1062(*1022*)

CSCI {1102 + 1103 (*1113*)} **or** 1106(*1113*) **or** 1125(*1103*)

MATH 1400(*1271*), 1401(*1272*), 2201(*2142*) **or** 2200(*Tr.*), 2210(*2066*), 2220(*2263*) {(2201 **or** 2200) & 2210 together equals *Math 2243*}, 2230(*Stat 3021*)

PHYS 1327(*1301W*), 1328(*1302W*)

Pick three underlined courses